CALIFORNIA
ENERGY
COMMISSION

MTBE PHASE OUT IN CALIFORNIA

APPENDIX -- Stakeholder Comments

MARCH 2002
P600-02-008CR

Gray Davis, *Governor*

CALIFORNIA ENERGY COMMISSION

Prepared By:
Ramesh Ganeriwal & Jazmin Pierce
Project Support Staff

Prepared For:
Sherry Stoner
Contract Manager

Gordon Schremp
Project Manager

Pat Perez
Manager
Transportation Fuel Supply & Demand Office

Nancy Deller
Deputy Director
Transportation Energy Division

Steve Larson
Executive Director

MTBE Phase Out in California

TABLE OF CONTENTS

Section I. Comments Received via e-mail, fax, etc.

Section II. Excerpts from the Public Workshop

March 8, 2002

The Honorable Gray Davis
Governor of California
State Capitol
Sacramento, CA 95814

Dear Governor Davis:

The Association of California Water Agencies (ACWA) respectfully urges you to stand firm on your 1999 Executive Order calling for a ban on MTBE in gasoline by December 31, 2002.

ACWA and its 438 public water agency members have been outspoken in our support for eliminating MTBE from California's gasoline. As the agencies responsible for more than 90% of the water delivered in the state, we applauded your decision three years ago to put the safety of our water supplies first by banning the use of MTBE by the end of 2002.

As you know, MTBE has had a serious and disturbing impact on California's groundwater and surface water sources. That impact includes:

- Contamination and closure of dozens of drinking water wells. MTBE contamination or threat of contamination has forced the closure of wells in South Lake Tahoe, Santa Monica, San Jose, Sacramento, Cambria, Kern County and other locations.

- Millions of dollars in water treatment, cleanup and replacement water costs. These costs will continue to mount as long as MTBE remains in gasoline and is allowed to find its way into water sources.

- Loss of public confidence in the safety of our water supplies.

It is patently obvious that MTBE is a threat to our state's water resources. It is an expensive problem that will only grow more expensive in the future, and it is costing us precious water supplies that California simply cannot afford to lose.

ACWA has strongly supported your efforts to obtain a waiver for California from the Clean Air Act's oxygenate requirement. We agree with your assessment that refiners can produce a clean-burning gasoline without the addition of any

Association of California Water Agencies
910 K Street, Suite 100
Sacramento, California
95814-3514

916/441-4545
FAX 916/325-4849
www.acwanet.com

Hall of the States
400 N. Capitol St.,
Suite 357 South
Washington, D.C.
20001-1512

202/434-4760
FAX 202/434-4763

oxygenates. From a water supplier's perspective, it is clear that fewer additives put into gasoline mean less opportunity for future contamination of our water sources.

It has been reported that concerns over distribution problems and potential gasoline price increases have led you to consider delaying the MTBE ban for an unknown period of time. ACWA firmly opposes any delay in removing this insidious contaminant from California's gas. Whatever small increase in gas prices that may result from the ban will pale in comparison to the tremendous cost the public will bear for ongoing cleanup of MTBE contamination and replacement of contaminated water supplies.

Gasoline refiners and distributors have had three years to plan for and accommodate the removal of MTBE by the end of 2002. During that time, MTBE has continued to further contaminate our state's water supply sources.

The situation unfolding right now in Ventura County is a case in point. Two distinct and separate MTBE plumes have been discovered within the past six months, impacting the City of Santa Paula and the United Water Conservation District (UWCD), both of which deliver drinking water to residents in that area. United has 12 wells that are threatened, and the City of Santa Paula has five threatened wells.

Although investigation of the plumes has not revealed when the releases occurred, at least one of the plumes appears to be recent and very possibly caused by a spill at a gasoline dispenser. While United Water Conservation District has managed to continue serving its customers by using extra supply wells and alternative surface supplies, the City of Santa Paula has no similar options and is forced to continue using its wells despite the MTBE plume located just 700 feet away.

As this recent example shows, delaying the ban on MTBE by even one more day is another opportunity for MTBE to find its way into another community's water supplies.

We believe that given the choice between continued MTBE use or protection of our water supplies, the public would put our water supply sources first – even if it means paying a little more at the pump for a short time.

We urge you to help us protect California's precious water supplies by keeping the December 31, 2002 deadline intact.

Sincerely,

STEPHEN K. HALL
Executive Director

2

cc: Senator Dianne Feinstein
Senator Barbara Boxer
Pat Perez, California Energy Commission
Winston Hickox, California Environmental Protection Agency
Christine Whitman, U.S. Environmental Protection Agency

3

February 25, 2002

The Honorable Gray Davis
State Capitol
Sacramento, CA 95814

RE: MTBE Phase Out in California/ Stillwater Associates study

Dear Governor Davis,

We are writing to urge you not to delay the MTBE ban. Bluewater Network has serious concerns about the economic and environmental impact of a delay.

First, we firmly believe that an across-the-board delay of the MTBE ban is unnecessary. At the February 19 California Energy Commission workshop to discuss the Stillwater Associates report on the MTBE phase-out, Stillwater staff and others stated that most California refiners are on track to meet the December 31, 2002 MTBE ban deadline. Delaying the ban will strand investments already made by refiners and the transportation infrastructure industry.

While we certainly do not want California to experience supply or price problems, we do not believe a ban extension is the answer to the possibility of unintended consequences of the MTBE ban. We believe a better solution would be temporary ban waivers for any refineries that experience legitimate difficulties. If a refiner can make a compelling case to the state that serious price increases will occur, or that ethanol or other supply problems will result if they remove MTBE by the deadline, a variance to allow continued MTBE use for a specific, limited time could be granted until the problems are solved. We believe this is a reasonable approach that would not jeopardize California's environment or economy.

Second, allowing continued MTBE use will unnecessarily endanger California's water resources and economy. A study by Lawrence Livermore National Laboratory estimated that there are already approximately 9,000 groundwater sites contaminated by MTBE in California. Cleanup costs for public water wells range from $1,000,000 to $11,000,000 per well (UC Davis reports the low estimate for cleanup of public water wells contaminated with MTBE at $1,000,000 per well, while the California MTBE Research Partnership estimated $11,000,000 per well, including capitol and operation and maintenance costs over a 30 year period.) Private well treatment is approximately $35,000 per well for carbon filtration over 30 years.

Stillwater's analysis of the costs and benefits of the MTBE phase-out quantified potential fuel price increases, but completely ignored the costs of potential MTBE contamination with continued use. As stated above, costs for cleanup of MTBE contaminated water can run into the millions of dollars per well. California cannot afford to lose existing water supplies, let alone foot the bill for cleanup when contamination occurs.

Third, Stillwater's assumption that the state's expected petroleum supply deficit should be filled with MTBE is an inappropriate application of MTBE. As you know, California's demand for

(8)

petroleum is rising every year, due to increasing vehicle miles traveled, population, and preferences for less fuel-efficient vehicles such as sport utility vehicles. Your administration, through the AB 2076 petroleum reduction program, is already investigating potential strategies to reduce this demand. Of all possible solutions, we believe continued use of MTBE, a known environmental hazard, would carry the most risk and the least long-term benefit, and should not be seriously considered.

Finally, we urge your administration to consider the environmental and economic benefits of blending more ethanol than the minimum 5.7 percent required to meet the Clean Air Act oxygen content requirement. Under California's current fuel regulations, it would be difficult for refiners to add more than the 5.7 percent ethanol required to meet the Clean Air Act oxygen requirement. However, if the predictive model is updated to reflect recent Automobile Alliance data showing reduced NOx emissions in new vehicles, ethanol could be blended into up to ten percent of California's gasoline. This would result in a net petroleum savings of five percent or more, completely eliminating the petroleum supply deficit predicted by Stillwater Associates.

Although refiners will need to eliminate some light ends in the refining streams in order to meet air quality regulations when adding ethanol, a ten percent ethanol blend will still result in a net fuel volume gain of at least five percent. Petroleum displacement would be greater than five percent if some refineries used the pentane light ends to make other products such as iso-octane.

Furthermore, use of ethanol to replace MTBE and to displace petroleum would provide the state with significant economic benefits if produced from in state from California's abundant biomass resources. A CEC report published in March 2001, "Costs and Benefits of a Biomass-to-Ethanol Production Industry in California," shows that even a modest state biomass ethanol industry, producing 200 million gallons per year, would result in statewide economic benefits of $1 billion over a 20-year period. The December 1999 CEC report, "Evaluation of Biomass-to-Ethanol Fuel Potential in California," shows California has enough biomass resources to produce up to 3.9 billion gallons of ethanol per year. For these reasons, it makes sense to evaluate increased ethanol use as an important petroleum reduction strategy.

Thank you for the opportunity to comment. We strongly urge you to stay firm on your commitment to phase MTBE out of California's gasoline by the end of this year.

Sincerely,

Elisa Lynch
Campaign Director

Cc: Winston Hickox
Jim Boyd
Pat Perez

Pat Perez - MTBE Phase Out on Gasoline

From: "Acosta, Juan M" <Juan.Acosta@BNSF.com>
To: "'pperez@energy.state.ca.us'" <pperez@energy.state.ca.us>
Date: 2/22/02 3:05 PM
Subject: MTBE Phase Out on Gasoline

Pat

Attached are my comments on the workshop presentation. Please feel free to call me if you have any questions.

Thanks

Juan Acosta
Director, Government Affairs
Burlington Northern & Santa Fe Railway
916-448-4086 (Tel)
916-448-8937 (Fax)

<<Letterhead.doc>>

BNSF

JUAN M. ACOSTA
Director, Government Affairs

The Burlington Northern
and Santa Fe Railway Company

1127 11th Street
Suite 242
Sacramento, California 95814
916-448-4086
Fax 916-448-8937
E-mail juan.acosta@bnsf.com

The Honorable James D. Boyd
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

February 22, 2002

Re: Workshop on MTBE Phase-Out

Dear Commissioner Boyd

In response to your request for timely comment concerning the recent CEC MTBE workshop, I would like to offer the following observations concerning rail transportation issues. In recent months, representatives from BNSF have met several times with various officials from the CEC, CARB, and Cal EPA to discuss how BNSF's approach to moving ethanol form the Midwest to California can help meet California's ethanol supply requirements.

Transporting agricultural commodities, BNSF routinely runs large "unit trains" of 100 or more cars carrying the same commodity. Unit trains provide significant efficiencies (approximately 50 percent) over traditional service by eliminating many of the problems that lead to service failures in assembling and handling individual cars carrying commodities mixed with other types of freight cars. Moreover, the unit train approach, by allowing us to run what is essentially a shuttle service, makes our equipment usage and tracking much more efficient. For example, BNSF had a fleet of 35,000 grain cars in 1998 when we adopted the unit shuttle train innovation. BNSF has been able to pare that number down by 6,000 cars because of unit train efficiencies and our management program. Moreover, 5,500 cars now handle 80 percent of our grain freight using the unit train innovation.

Ethanol, like other commodities, can be transported to California in the same manner we currently transport grain (BNSF moves 10-to-12 unit trains of grain per week into the Central Valley to supply the feedstock used by ranchers here). BNSF has spent considerable time talking with large and small producers in the Midwest (approximately 90 percent of the aggregate production), as well as refiners about using BNSF unit trains to transport ethanol to California. The interest in using our service has been extremely positive -- both large and small producers are encouraged by our ability to serve the spectrum of producers, as well as our ability to access 95 percent of the Midwest ethanol production.

With just 4 unit trains each week, BNSF alone can transport enough ethanol into Southern California to satisfy the region's estimated need for ethanol. By comparison, BNSF currently runs 30-to-35 trains each day in and out of Southern California to service our intermodal freight customers whose containers flow in and out of the ports of Long Beach and Los Angeles.

Although the Stillwater report did not address rail transportation in any meaningful detail (ethanol supply into the state was apparently not part of the study's scope), during the hearing, CEC staff noted the unit train approach offered the most efficient method for supplying sufficient amounts of ethanol to California. While staff suggested the rail receiving facilities have yet to be constructed in Southern California, there was reference to a planned facility for a refiner in that region of the state that would satisfy this need.

The issue of railcar tank requirements for ethanol transportation was also discussed briefly. We have had discussions with railcar tank manufacturers concerning the need for additional tank cars and have been assured the leading manufacturer can easily supply an additional 1,000 new tank cars by Fall 2002. In addition, a significant number of tank cars currently used to transport other materials would likely be converted to use for ethanol transport. 2

The problem BNSF faces, like most other enterprises involved, is one of certainty, timing and asset allocation. While I appreciate the responsibility the Commission and other state agencies have in making a considered and informed decision in this matter, it has also been very difficult for many on the ethanol supply side of this discussion to make plans with any reasonable sense of certainty as to the outcome or timing. Fits and starts have characterized the course of this issue. Litigation, international trade disputes, federal and state agency deliberations have all played a hand in this. In turn, delays in decision-making have transformed critical asset allocation decisions into a dilemma for some.

We have remained flexible in our planning in an attempt to ensure the anxiety expressed by some over ethanol supply issues does not become something of a self-fulfilling prophecy and are confident in our ability to efficiently transport California's ethanol requirements, yet such delays run the risk of making it practically impossible for the supply side to wok on a timely basis. While I am encouraged by reports the Governor expects to make a decision in 40 days, I cannot overstate how important it is to make a decision soon. I also note it is difficult to predict today how BNSF will allocate its assets and equipment three years from now. In the interim, other similar business opportunities may become the focus of our business plan. We urge the Commission and staff to retain the current schedule as much as possible with an extension that, if necessary, is of short duration (i.e., a few months) crafted to deal with specific facility planning and permitting issues. 3

A final observation -- in attending the workshop and reviewing the Stillwater report, it is apparent the issue is not ethanol supply, but gasoline formulation under the CARB III requirements. The Stillwater report and workshop discussion underscores the need to reevaluate the limitation on the amount of ethanol blended into gasoline. Data referenced by some attending the workshop would seem to suggest that increasing the ethanol blend to 10 percent would make up for any gasoline volume lost due to the MTBE ban while still achieving California's desired auto emission goals. 4

Thank you for this opportunity to provide comments. Should you or you staff have any questions, please feel free to contact me at 916-448-4086.

Sincerely,

Juan Acosta
Government Affairs Director

Cc Attached List

Copies:

Susan Kennedy, Governor's Office
Secretary Winston H. Hickox, California EPA

Pat Perez - Comments on Possible Impacts of MTBE phase out on Gasoline Supplies

From: <CalHodge@aol.com>
To: <pperez@energy.state.ca.us>
Date: 3/1/02 7:25 AM
Subject: Comments on Possible Impacts of MTBE phase out on Gasoline Supplies

Dear Pat:

I have attached comments concerning NOx increases associated with the use of ethanol will mail paper copies when I get back to the office.

When RFG was introduced ozone exceedances in areas using ethanol as the RFG oxygenate doubled while exceedances in areas using MTBE decreased. Data presented at CARB workshops indicate that the increased ozone may have been caused by the higher NOx and permeation losses associated with using ethanol in gasoline. The auto industry's allegations concerning ethanol's driveability and emissions increases associated with increased driveability index are consistent with the actual increases in ozone exceedances observed when RFG began in 1995. Data on new technology car emissions presented by the auto industry validates the predicted NOx increase in CARB's Phase 3 Predictive model. I have also shared some of my recollections on how the Federal Complex Model became NOx neutral. Therefore revisiting the Predictive Model is not justified.

If CARB does revisit the model, they will have to do more testing and a minimum one year ban delay will be required.

Because the real life increases in ozone exceedances make sense in light of the increased NOx, evaporative (due to permeation) and exhaust (due to driveability) emissions California should delay the MTBE ban indefinitely in order to prevent adding the risk of increased ozone exceedances to the Gasoline supply and price risks. Because the water actual water situation appears to be being managed, it does not seem prudent to take on these additional air quality and economic risks.

Cal Hodge

A 2ND OPINION, INC.

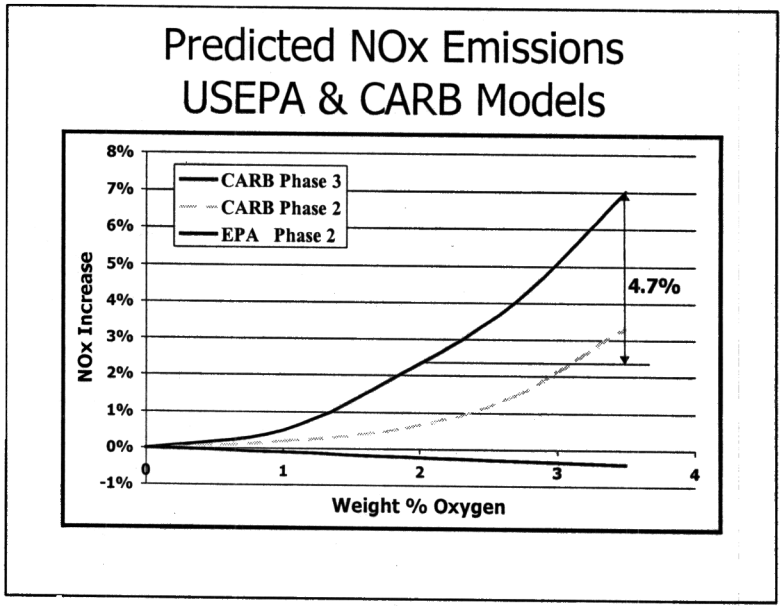
Comments on the Report:
"Impact of MTBE Phase Out"
By Stillwater Associates
Presented at the February 19, 2002
CEC Fuels and Transportation Commission Workshop

Revisiting the Predictive Model

While the Stillwater Associates' report focused upon the ability of the gasoline supply industry to produce and import the gasoline and blending components needed to meet California's gasoline demand after MTBE is phased out, several workshop participants made comments upon which I would like to comment.

Mr. Jim White of White Environmental Associates commented that the water contamination problems forecast by the University of California have not materialized. Mr. White commented that actual water contamination frequency data indicated that the underground storage tank repair and maintenance program was working. Therefore, it did not make sense that California should subject its citizens the risk of a gasoline supply shortage and the subsequent rise in gasoline prices projected by Stillwater Associates. I understand Mr. White will be filing comments on the issue. Therefore, I will not file additional comments on the actual tank situation. I will simply say that since the actual tank experience indicates that the water contamination appears to be being managed, California should not subject its citizens to the risk of gasoline lines and potential price increases that would cost the state of California much more than the water contamination. I will however comment on the request of several workshop participants to revisit the Predictive Model.

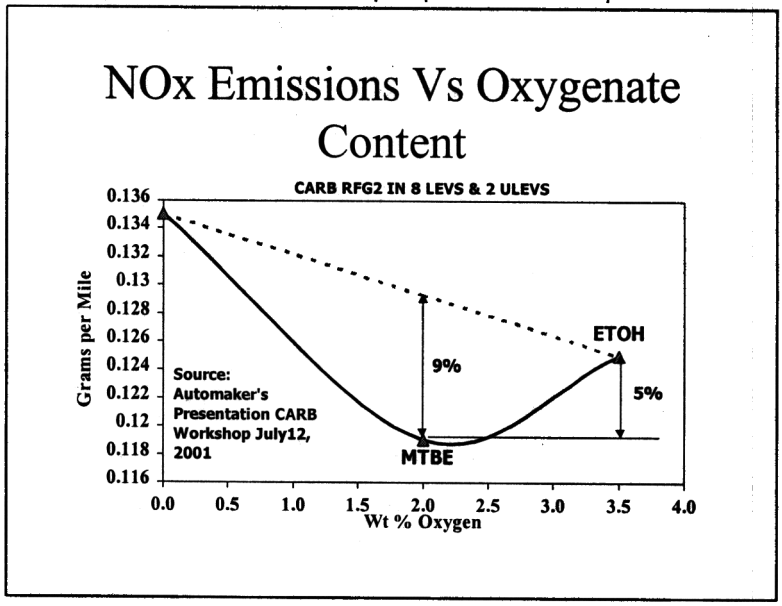
Some workshop participants were concerned that the predicted NOx increase in CARB's new Phase 3 Predictive Model is not correct. They felt that if the NOx increase was similar to that in the Federal Complex Model that gasoline blenders could use 10 percent rather than 5.7 percent ethanol and reduce the shortfall projected by Stillwater. Figure 1 compares the calculated NOx emissions from CARB Predictive Model and the Federal Complex Model. The increase in NOx emissions effectively blocks the use of ethanol at concentrations above 5.7 percent.



I attended the workshops in which the USEPA Complex Model was

created. The Auto Oil emissions studies in the early 1990's showed that the NOx increase for 10 percent ethanol blends was statistically significant. The NOx increase for ether blends was not statistically significant. Some of the early regression runs of the Complex Model predicted that NOx emissions increased as oxygen content increased. In the workshop discussions the facts that oxygenates were required and that the NOx emissions increases for ethers were not statistically significant were used to justify adjusting the regression analysis to result in a NOx neutral model.

In a CARB July 12, 2001, workshop automobile industry representatives presented the NOx emissions data shown in Figure 2.

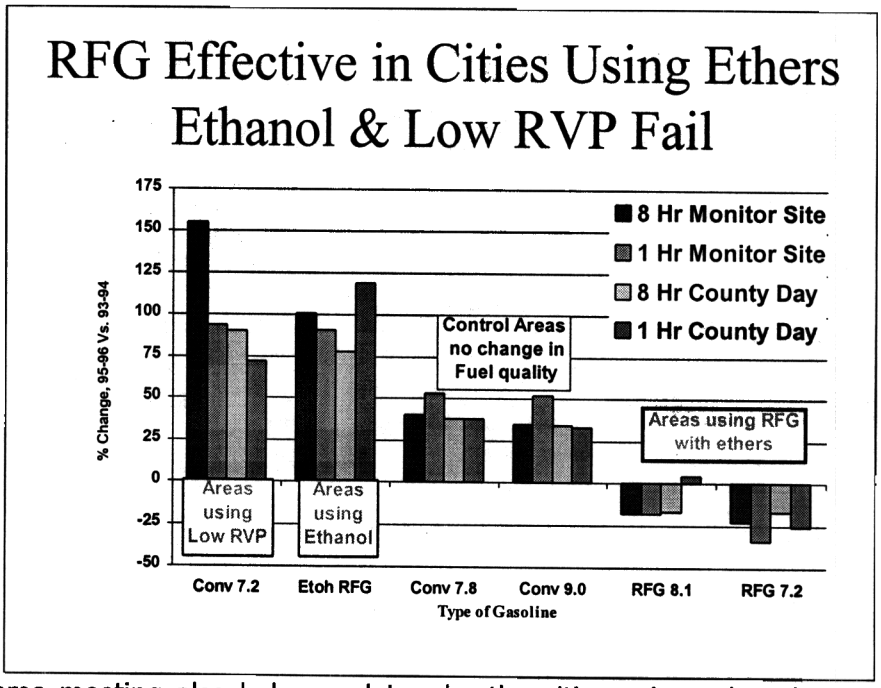


Note, the 5% increase in NOx emissions between the MTBE and ETOH blends is close to the 4.7% increase predicted by CARB's Phase 3 Predictive Model. Therefore, it is hard to justify redoing the model.

Also, because there is no ethanol NOx emissions data at 2 wt% oxygen, we simply do not know if ethanol at 2 wt% oxygen will reduce NOx emissions 12% like MTBE does or only 3% like it would if the NOx response were proportional to ethanol content. If the Predictive Model were revisited to change the NOx prediction, ethanol NOx emissions data at 2 wt% oxygen would have to be measured. This would take about one year. Thus the minimum delay in the MTBE ban if the Predictive Model were revisited would be one year. Even if the reexamination resulted in a revised model, the auto industry data indicates that NOx emissions would be greater than those experienced with MTBE.

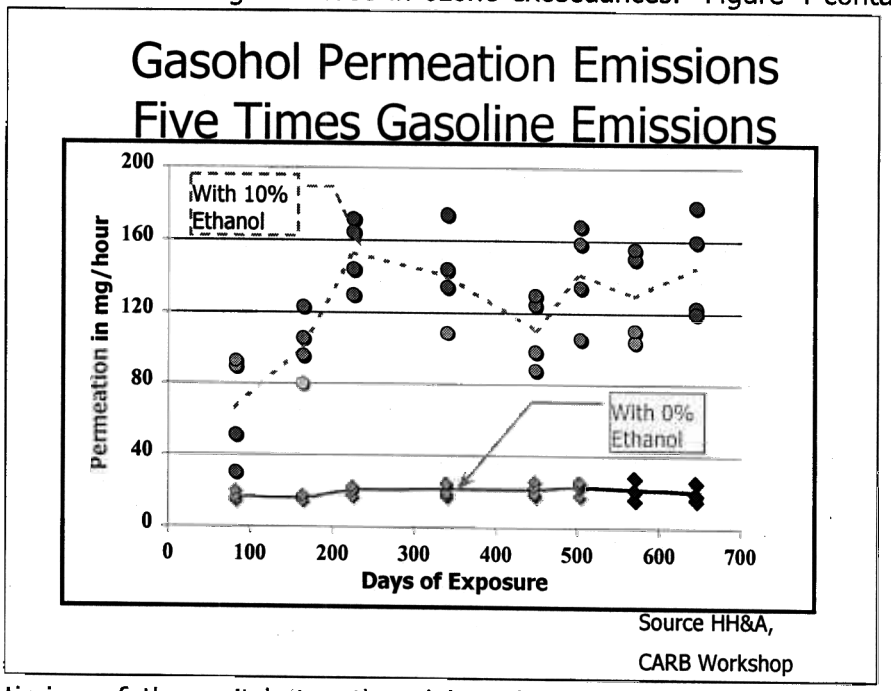
If any of the California airsheds are NOx limited, switching to ethanol form MTBE could actually increase ozone exceedances. I am concerned about this because I sorted ozone exceedance data by type of fuel used several years ago and calculated the percent change in exceedances between 1993-1994 and 1995-1996. I found that when the nation switched from conventional gasoline to reformulated gasoline under the Simple Model that ozone exceedances doubled in areas that used ethanol as the oxygenate and that they decreased in areas that used MTBE as the oxygenate. Under the Simple Model refiners made reformulated gasoline by simply lowering the benzene content and RVP of the gasoline while adding either 10 % ethanol or 11% MTBE. The main difference between the Chicago/Milwaukee reformulated gasoline and other reformulated gasoline was the oxygenate chosen. The 25 to 50% increase in ozone exceedances for the conventional gasoline areas in which gasoline did not have to change significantly can be attributed to weather changes that apparently outweighed advances in car technology and stationary sources. The 15 to 25% reduction in ozone

exceedances in areas that used reformulated gasoline containing MTBE is an indication that reformulated gasoline that contains MTBE is effective in reducing ozone exceedances. The increase in the areas using ethanol raises concerns about ethanol's effectiveness. I am concerned that if California switches from MTBE to ethanol, that ozone exceedances will increase like they did in Chicago and Milwaukee between 1993-1994 and 1995-1996 as shown in Figure 3.

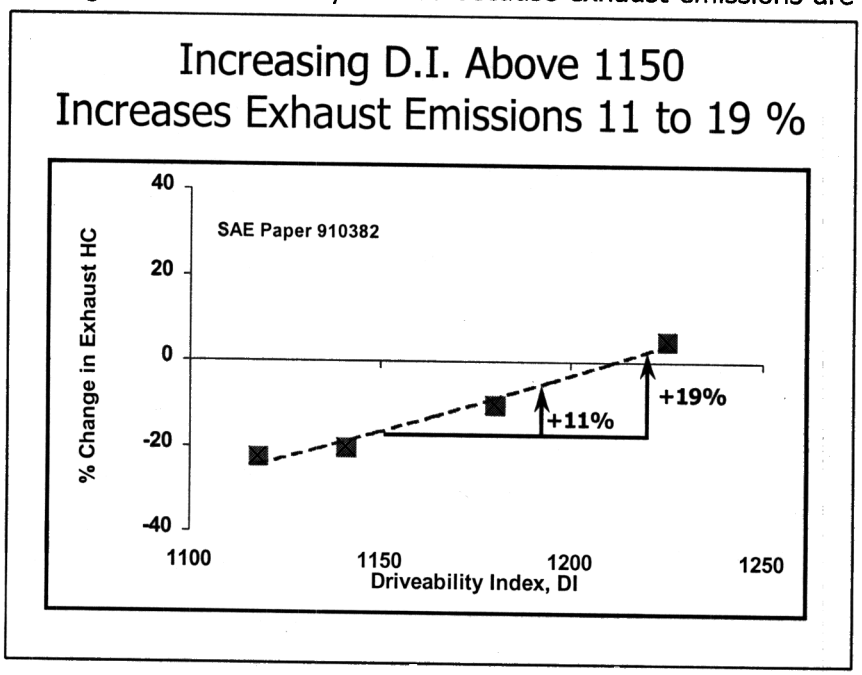


I could not explain this data using the Complex Model. But, when I saw the NOx emissions data that the automobile industry provided in the July 12, 2001, CARB workshop I saw some justification for the increased exceedances.

Permeation data presented by Harold Haskell & Associates at that same meeting also helps explain why the cities using ethanol may have had the large increase in ozone exceedances. Figure 4 contains that data. This data is interesting in that it has effects not captured in the emissions models. Because it takes about 200 days for the permeation losses to come to equilibrium the typical emissions test data cannot capture the impact of ethanol permeation through the various seals in automotive fuel systems. But, the timing of the switch to ethanol based reformulated gasoline is consistent with high evaporative emissions during the 1995 ozone season.



Another possible explanation is the automobile industry's allegation in their World Fuel Charter that gasoline containing 10% ethanol has a driveability index that is 70 points higher than that of gasoline containing only hydrocarbons or ethers. If we couple this claim with another automobile industry allegation that exhaust emissions increase as driveability index increases we find that ethanol blends could have exhaust emissions that are 11 to 19 % higher than ether hydrocarbon blends with the same distillation properties as illustrated in Figure 5. This is very serious because exhaust emissions are 3 times as likely to form ozone as evaporative emissions.



The potential for more NOx emissions, more evaporative emissions and more exhaust emissions may explain the increased ozone exceedances observed when the reformulated gasoline program began. Before they switch from MTBE to ethanol California should determine if they want to risk air quality deterioration and higher gasoline prices or gasoline lines to resolve a water problem that actual data indicates may have been overestimated.

In light of evidence that ozone exceedances may increase if ethanol replaces MTBE California should consider delaying the switch to ethanol indefinitely. At a bare minimum the governor should delay the MTBE ban until further testing is completed or a Federal MTBE ban is enacted.

Pat Perez - Comments on Possible Impacts of MTBE phase out on Gasoline Supplies

From: <CalHodge@aol.com>
To: <pperez@energy.state.ca.us>
Date: 3/1/02 7:43 AM
Subject: Comments on Possible Impacts of MTBE phase out on Gasoline Supplies

Dear Pat:

I have attached comments concerning the Longhorn pipeline's ability to displace eastbound California Product and thus help relieve the California supply shortage projected by Stillwater. I will send you a paper copy Monday when I get back into the office.

I looked at Longhorn for another client about a year ago. When we consider the facts:

- They have not started shipping and that more litigation is possible.
- West Texas and New Mexico refinery capacity will probably be rationalized in light of the new lower cost supplies from the USGC and their upcoming desulfurization expenditures.
- Regional demand growth is likely to absorb much of Longhorn's capacity.

Stillwater's projection that Longhorn will free up eastbound product for use in California by 2006 may be optimistic. The attachment provides a few more details.

If Longhorn supply is key, California should consider extending the MTBE ban beyond Stillwater's recommendation.

Cal Hodge

A 2ND OPINION, INC.
Comments on the Report:
"Impact of MTBE Phase Out"
By Stillwater Associates
Presented at the February 19, 2002
CEC Fuels and Transportation Commission Workshop

Longhorn Pipeline

We wish to comment on the Stillwater Associates assumption that the Longhorn pipeline will ease California's supply shortage by 2006. We understand from conversations with Longhorn personnel that the pipeline plans to begin filling in May 2002 and to actually begin shipping product in June 2002. This posture makes it appear that the Stillwater Associates assumption that the Arizona demand for gasoline from California will decrease 106,000 barrels per day (bpd) between 2005 and 2006 is reasonable. However, we would like to focus on the assumption that Longhorn will not significantly lower the Arizona demand for California product during 2003 through 2005. For reasons we will list shortly, we believe that it is a good assumption that Longhorn will not significantly reduce the Arizona demand for California product. These same circumstances may also extend into the 2006 and later time period and may make it prudent for California to consider and even longer delay of the MTBE ban implementation.

Startup date is still planned rather than actual
The startup date is still an assumption. It assumes that all litigation is settled or resolved. When dealing with multiple environmental activist groups, that is a significant assumption. Also, there is litigation pending concerning Longhorn's legal capacity to exclude gasoline containing MTBE from it customer base.

The startup capacity of Longhorn is 75,000 bpd. The maximum capacity is 225,000 bpd which can be achieved only after adding pump stations that are not due to be fully operational until 2010. The pipeline between El Paso and Tucson is now full. Product is being shipped via truck. Because the intra-Texas Longhorn expansions do not make sense until the pipeline to the west is available 125,000 bpd is a reasonable maximum capacity expectation for 2006. If this pipeline expansion experiences the same environmental opposition that Longhorn has experienced 125,000 bpd by 2006 will be very optimistic.

Regional refiner rationalization absorbs much of Longhorn's capacity
The initial flow of US Gulf Coast (USGC) product into the West Texas / New Mexico region will probably cause some regional refining capacity rationalization. These small relatively inefficient refineries are facing significant capital requirements in order to comply with the upcoming desulfurization requirements for both gasoline and diesel fuel. The availability of relatively low cost USGC product will make it difficult for these regional refiners to get financing for the desulfurization projects. Overall about 40,000 to 50,000 bpd local refiner production will probably disappear.

This will leave only 25,000 to 35,000 bpd of product to displace California supply and local demand growth. By 2006 only about 75,000 bpd of longhorn product is likely to be available to push against California supply or meet local demand. When Longhorn reaches its maximum capacity, only 175,000 bpd will be available to meet local demand growth or displace California supply.

Local demand growth absorbs much of Longhorn's capacity
Local demand growth will absorb much of Longhorn's capacity. Arizona demand has been growing at over 10,000 bpd per year. Add in West Texas and New Mexico demand growth and

we find that 15,000 bpd per year will probably be used to supply local demand. The table below summarizes the projected balances:

Year	2002	2004	2006	2008	2010
Longhorn Capacity, bpd	37,500	75,000	125,000	175,000	225,000
Refinery Rationalization	-37,500	-45,000	-50,000	-50,000	-50,000
Local Demand	0	-30,000	-60,000	-90,000	-120,000
Available to displace Ca Supply	0	0	15,000	35,000	55,000

Conclusion

Stillwater is probably correct that Longhorn will not significantly contribute to displacing product supplied to Arizona from California until 2006. The Stillwater volume available to displace California product however is probably optimistic. Therefore, California should consider delaying the MTBE ban more than 3 years recommended by Stillwater Associates.

California Biofuels Development Group, LLC

March 1, 2002

California Energy Commission
1516 Ninth Street, MS 23
Sacramento, CA 95814

Attention: Mr. Pat Perez: via e-mail

Re: MTBE Phase-Out – "Stillwater Associates" Report Comments

Over the past two years, the California Biofuels Development Group, LLC has been involved in the feasibility of ethanol production in California and the development of a 20-million gallon per year fuel ethanol production facility in Yolo County, California to meet the new demand for ethanol in the state. The project is a grassroots state-of-the art facility that will require approximately 210,000 tons of corn per year and use the dry-mill process technologies and equipment to produce ethanol for the California fuels market and distiller's feed grains for the state dairy and cattle industry.

The project will not only supply California with a clean burning renewable fuel and provide economic development for the local area, but also to be a catalyst to develop and sustain an in-state ethanol industry. The project will initiate the grain-to-ethanol concept in California and provide value-added benefits to the state's agriculture industry, encouraging other regional ethanol production facilities. In addition, the project will facilitate the development of cellulose-to-ethanol technologies by providing a full-scale operating plant to the technology developers for demonstrating the use of agricultural waste materials, forestry thinnings and residues, and municipal solid wastes once the cellulose technologies are available for commercialization.

We have completed preliminary engineering design, permitting, and site selection and are currently finalizing funding for the construction of the ethanol facility. Maintaining the current deadline for phasing out MTBE is critical to secure funding for the project and commence construction of the first major ethanol facility in the state. We urge you not to move the deadline for phasing out MTBE. Extending the deadline will substantially delay the development of the project and prohibit us from moving forward with construction of the facility. Substantial effort and cost has been invested not only by California Biofuels Development Group, LLC but also the Yolo County Ethanol Task Force, Yolo County Farm Bureau, the ethanol and petroleum industries and many other agencies and companies to meet the current MTBE deadline.

Sincerely,

CALIFRONIA BIOFUELS DEVELOPMENT GROUP, LLC

Phil Cherry
Chief Operating Officer

1059 Court Street. Suite 218 • Woodland, California 95695
Telephone/Fax: (530) 346-7416 • Email: philcherry13@hotmail.com

California Renewable Fuels Partnership

1260 Lake Blvd – Suite 225
Davis Ca 95616
530-750-3017

Comments re Stillwater Report:
3/1/02

The California Renewable Fuels Partnership would like to make the following comments to re the draft Stillwater draft report.

Impact on Local California Ethanol Production Opportunities:
Delaying the MTBE Phase out will have severe consequences on local production: Currently there at least eight projects in California in development and planning phase to produce over 240 million gallons. These projects will contribute over 500 million dollars in direct economic development plus additional on going economic benefits to local farmers and communities. Delaying the MTBE ban will create an atmosphere of uncertainty that will effectively squelch investment appetite for these projects. This consequence of a MTBE extension cannot be over looked and needs to be addressed in any solution.

In State Producer Incentive Imperative for Local Production:
Last year the CEC provided an analysis on the return to the state for a producer incentive for local production. This study showed a billion dollar return for an investment of 500 million dollars. Such a program is essential to insure that an instate ethanol industry is built in California. California has a desire to not be dependent on out of state sources of ethanol. Recommending a producer incentive program is critical to the fulfillment of that goal.

New specification for ethanol fuels needed:

The Stillwater report did not examine increased uses of ethanol. Increasing the ethanol in the gasoline to 7.7% or 10% will increase the fuel supply and address much if not the entire perceived shortfall. In order to accomplish this a new specification that is maximized for ethanol should be adopted by the ARB. CRFG3 regulations and predictive model could stay the same giving refiners the option of using the current predictive model or using a new specification tailored to ethanol's unique blending and air quality characteristics. Such a specification can giver refiners more flexibility to use greater amounts of ethanol when market conditions warrant, thus helping alleviate potential price spikes.

CALIFORNIA STATE UNIVERSITY, FRESNO

February 26, 2002

Mr. Pat Perez
California Energy Commission
1516 9th Street M/S 23
Sacramento, California 95814

Dear Mr. Perez:

I am writing in response to the *MTBE Phase Out in California* study conducted by Stillwater Associates for The California Energy Commission. There are four areas that require attention:. 1) on p. 41 the issue is causality and supply versus demand side issues 2) p.14 the role of substitutes needs to be considered in the schematic for demand determinants, or "drivers" 3) p. 42 the numbers used in the elasticity of demand equation are not consistent with theory, or with the formula presented on page 41. 4) there is a math error on p. 42, the result of which is 1. an over-amplified demand effect 2. inconsistent with the authors' argument of inelasticity.

1) **Causality**
In section 5.1, the first paragraph explains price elasticity of demand. Price elasticity of demand measures a market's responsiveness to changes in price. The question that the authors seem to raise is how will a shortfall in gasoline production impact prices (P), consumption (quantity demanded, Q) and consumer expenditure (P*Q). Therefore, in the second sentence, a more accurate way to describe the price elasticity of demand is that a 20% increase in price will result in a 2% fall in demand. This is an important observation because it is a supply side impact, and a shift in the supply curve that will drive the price change of gasoline.

2) **Determinants of Demand**
In section 2.1 a model is presented to determine fuel demand. Although the authors address substitutes later in the study, their role needs to be addressed initially, and throughout the analysis. The availability of substitutes is an important part of determining the elasticity of demand for a good. For example, especially the Northern California markets have many substitutes readily available for transportation. These consumers are more flexible (price elastic) than, perhaps, their Southern California counterparts. Although the Southern market appears to be more strongly affected by the suggested shortfall, additional supplies made available in the Northern market would impact these effects. Therefore, especially when the elasticity of demand is such a strong part of the argument, substitutes should be considered throughout the analysis.

College of Agricultural Sciences and Technology
Department of Agricultural Economics
5245 N. Backer Ave. M/S PB101
Fresno, CA 93740-8001
559.278.2949
Fax 559.278.6536

3) **Inconsistent Model Application**
The authors present the formula Elasticity of Demand equals percentage change in quantity demanded divided by percentage change in price.

$$E_D=(\%\text{Change Q})/(\%\text{Change P}).$$

However, on the top of page 42, their presentation suggests that they are using the formula

$$E_D=(\%\text{Change } \textit{Supply})/(\%\text{ Change P}).$$

They write that a 10% *shortfall*, a supply issue, caused prices to double, and apply the elasticity of demand formula to show a 100% increase in price, based on an elasticity of demand of 10%. Using the percentage change in supply, with the elasticity of demand does not give an accurate percentage change in price.

4) **Math Error and Inconsistent Results**
In Section 5.2, the authors explore long term effects, and consider the impact of a -.7 elasticity of demand, and a 20% price increase on quantity demanded. This implies

$$-.7=(\%\text{Change Q})/.2$$

Solving for the percentage change in quantity demanded, one gets -.14, or that quantity demanded will fall 14%, not 30%. Furthermore, if demand *did* fall 30%, this would suggest an *elastic* (more responsive) demand, rather than an inelastic demand as the authors argue, and assume by using an elasticity of demand measure that is less than one.

Thank you for your consideration of these comments. If you have questions, please do not hesitate to call me at 559-278-2831, or email me at ebumes@csufresno.edu.

Respectfully,

Ellen Burnes

Ellen I. Burnes, Ph.D.

CAMBRIA COMMUNITY SERVICES DISTRICT

1316 Tamson Drive, Suite 201 • P.O. Box 65 • Cambria CA 93428
Telephone (805) 927-6223 • Facsimile (805) 927-5584

Pat Perez, Manager
Transportation Fuel Supply & Demand Office
California Energy Commission
Transportation Energy Division
1516 Ninth Street, MS-29
Sacramento, CA 95814

VIA FACSIMILE: 916-654-4705

Dear Mr. Perez,

The Community of Cambria is aware that you are making a recommendation to the Governor on the future of the MTBE current deadline of Dec 31, 2002. We urge you in the strongest possible terms to keep the current deadline of Dec 31, 2002. Any extension would be a reckless recommendation putting our precious and scarce water resources severely at risk.

As you are no doubt aware, Cambria has been victimized by one of the most significant MTBE site contamination events in the State. We continue to defend ourselves against the impacts of this situation, at great cost. We can only urge, in the strongest terms, that this risk be eliminated for other communities.

California should not put our water resources at risk just to keep our gasoline prices low.

We appreciate you immediate attention to this urgent matter.

Sincerely,

Vern Hamilton, Interim General Manager

CC:
Susan Kennedy, Office of the Governor
Secretary Winston Hickox, California Environmental Protection Agency
Secretary William J. Lyons, Jr., California Department of Food and Agriculture

From: "Christine Stackpole" <cstackpole@CERA.com>
To: <publicaccess@energy.state.ca.us>
Date: 2/19/02 12:23PM
Subject: MTBE Question

Hello,
I have several questions. Thank you in advance for your time.

C. Impact of MTBE phase out

My first question lies in the areas of supply and impact of the MTBE ban: Can you comment on the actions taken to date within the Californian downstream industry to prepare for the phase out? You alluded to one major refinery investment plan - what is the status of this and what is the status of any terminal conversions to begin accepting ethanol?

C. "

My next question also relates to the impact of MTBE phase out: the consultants mentioned that about 110,000 bd of ethanol is currently being used in CA. Where is that being used and why is it currently economic to blend some ethanol if there is excess MTBE available?

E. Barriers

Barriers: is the challenge presented of storage capacity one primarily of added costs that the industry will have to incur or one of time needed to add the necessary storage? how significant is the costs of adding new tankage?

Christine M. Stackpole
617.441.2675

Associate Director
Downstream Oil
Cambridge Energy Research Associates
http://www.cera.com/

March 1, 2002

California Energy Commission
Attention: Pat Perez
1516 Ninth Street, MS 23
Sacramento, CA 95814

Re: Possible impacts of MTBE phaseout on gasoline supplies

Dear Mr. Perez:

Cargill, Incorporated is a 137-year-old firm headquartered in Minneapolis. Cargill's primary businesses involve the marketing and processing of agricultural commodities. Our California operations employ more than 800 employees in 18 communities. We have been involved in the corn wet-milling industry since the 1960s and rank fourth in size among U.S. producers of ethanol. This letter is being submitted in response to the request for comments by the California Energy Commission regarding an extension of the deadline for phasing out the use of methyl tertiary butyl ether (MTBE) as a gasoline additive.

Cargill supports maintaining the MTBE phaseout date of Dec. 31, 2002 that has been established by Gov. Gray Davis. We believe that – absent a change in policy – the fuel system will be ready by then to satisfy fully at a reasonable price the demand for gasoline meeting all CBG 3 regulations. Significant investments have been made by ethanol producers, terminal and transportation companies and petroleum refiners to comply with that deadline. Any delay in phasing out MTBE would have the effect of penalizing firms that have invested in good faith to meet a government requirement designed to improve environmental quality. A postponement of the phaseout also would reward firms that have delayed making the necessary investments to meet the requirements of Executive Order D-5-99. It would be unconscionable to change government policy in a way that leads to such inequitable results.

Although we believe a delay in the phaseout of MTBE is unwarranted and should be opposed, it is possible to envision the political process leading to such an outcome. In that case, the government of California would have an obligation to take steps to ameliorate the damage that would be done to firms that have invested to accommodate oxygenates other than MTBE. Those firms would find themselves disadvantaged in the marketplace because they would have to compete against firms with lower costs.

One alternative would be to maintain the phase-out date, but allow a special exemption for firms that simply aren't able to comply. Those firms could continue marketing gasoline containing MTBE for a limited time in exchange for paying a penalty of several cents per gallon. This approach would help to ensure that spot shortages of gasoline do not develop, thus preventing any disruptions to California's supply of motor fuel.

Another alternative would be to delay the MTBE phaseout for some period, but adjust California's gasoline excise tax to create a differential between the rate that applies to fuel containing MTBE and fuel that does not. A substantial number of gasoline marketers would be encouraged to switch to non-MTBE fuel, if the excise tax rate for fuel not containing MTBE is several cents per gallon lower than the rate applied to fuel with MTBE. The tax differential should remain in effect until the state finally ends the use of MTBE. This approach should be relatively equitable to stakeholders that have invested to comply with executive order D-5-99 because it would encourage a transition to non-MTBE fuels without actually mandating their use. It would provide flexibility to refiners while reducing, at least in part, the potential risk to water supplies from MTBE contamination.

Although it would not provide immediate relief for California's motor fuel concerns, Cargill also endorses reviewing the predictive model to incorporate new data developed by the Association of Automobile Manufacturers regarding the performance of Tech 5 vehicles. Revising the model to allow 10-percent ethanol blends would give refiners more flexibility while mitigating the volume loss due to the removal of MTBE. It also would allow the inclusion of more pentanes in gasoline, thus increasing the volume of fuel available within California.

We regret that time constraints prevent us from providing a more comprehensive review of the study done by Stillwater Associates. We would be pleased to work in greater depth with the California Energy Commission in the future and we appreciate your consideration of the views expressed above.

Sincerely,

F. Terry Jaffoni
Assistant Vice President
Director, Cargill Ethanol
952-742-5891

Pat Perez - 2/19 Workshop comments

From: "Michael J. Greene" <cdsconsulting@attbi.com>
To: Pat Perez <pperez@energy.state.ca.us>
Date: 2/22/02 3:02 PM
Subject: 2/19 Workshop comments

Pat Perez
CEC

re: 2/19 CEC Fuels and Transportation Committee Workshop on the Possible Impacts of MTBE Phase-Out on Gasoline Supplies

Pat;

I participated in the 2/19 Workshop on the Stillwater Report, which predicts gasoline volume shortages through 2005 if MTBE is phased out this year as directed by the Governor in 1999. I made several ethanol related comments on the Report and want to associate mine with the other ethanol related comments given during the Workshop Q&A.

For example, Steve Shaffer commented that the Predictive Model used by CARB does not include up to date information showing that greater amounts of oxygenates than now permitted in RFG3 (2% oxygenate/5.7% volume) would result in greater reductions in NOX.

As I understand this, updating the Predictive Model to include this new information could permit the blending of more ethanol with California gasoline (3.5% oxygenate/10% volume) and doing so would reduce the likelihood of the gasoline shortages predicted by the Stillwater Report if MTBE is phased out this year.

Based on this understanding and my belief that ethanol can help California solve MTBE and other problems, I respectfully request the Committee and Commission to press for the speedy updating of CARB's Predictive Model.

Thank you.

Michael Greene
CDS Consulting
3701 McKinley Blvd.
Sacramento, Ca 95816-3417
T 916-736-1572
F 916-736-1573
cdsconsulting@attbi.com

March 1, 2002

California Energy Commission
Attn: Pat Perez
1516 Ninth Street, MS 23
Sacramento, CA 95814
Via e-mail to pperez@energy.state.ca.us

Re: Possible Impacts of MTBE Phase-Out on Gasoline Supplies

Dear Mr. Perez:

ChevronTexaco is pleased to offer the following comments in response to CEC's request for stakeholder input following their February 19 workshop on MTBE Phase-Out.

ChevronTexaco supports the Governor's decision to phase out MTBE from California gasoline effective December 31, 2002, and we are taking all steps necessary to comply.

For this reason, we are concerned that the Energy Commission appears to be rushing to judgement on a recommendation that the Governor delay MTBE phase-out, based on the results of a study carried out by Stillwater and Associates. These results were first shared with our industry at a meeting of the Western State's Petroleum Association on February 8th. At that meeting, Stillwater and Associates used their analysis of future gasoline supply and demand to argue in favor of a California Strategic Fuels Reserve, a study mandated by the legislature with a clear delivery date. This was followed quickly by the February 19 workshop where Stillwater and Associates used the same results to support their recommendation that California should delay MTBE phase-out for 3 years. As best we can tell, the Commission seems to be moving rapidly towards making its own recommendation on the MTBE phase-out date by mid-March, though without mandate. We do not see the need for the CEC to move so quickly on the MTBE issue that stakeholder input is not given adequate consideration.

The schedule allows little time for stakeholders who we think would be interested--such as California residents, state and local water authorities, the environmental community, or the petroleum and ethanol industries--to absorb and comment meaningfully on the conclusions reached by Stillwater and Associates. What makes this hurried schedule particularly difficult is the very complex and multi-faceted nature of the topic. Not allowing sufficient time for stakeholder input is also uncharacteristic of the Energy Commission, which in our experience, has always taken pains to involve key stakeholders early and often in its deliberations. This new approach is especially troubling because we feel several key assumptions in the Stillwater and Associates report are questionable, and merit further discussion, study, and analysis. We are particularly troubled because the recommendation to delay the MTBE phase-out is not well supported by the rationale offered.

Comments on cost projections

The media have seized on the contractor-estimated costs of not postponing the MTBE phase-out. We have concerns that the contractor's cost estimate for maintaining the current deadline is grossly overestimated and that the contractor's cost estimate for postponement are, because they are assumed to be zero, equally under-estimated. The people of the state are being told a decidedly one-sided and thus misleading story.

Because of the potential to mislead the public, the contractor's study of the costs of price spikes needs particular scrutiny. The projected cost of price spikes alone seems high. How was the computation made? Were the cost reductions that result from price depressions that oftentimes follow such spikes due to market over-reaction credited against the projected cost associated with the spike? Is it valid to use market reaction to a sudden unexpected shortage as an analog to a situation where a potential shortage is well-publicized? Is there really anything the state can do that would reduce price spikes to zero? And if so, should the state take such action given that higher prices are what stimulate market response? The contractor should address these issues, at a minimum. And on the cost of postponement side, the contractor needs to consider the costs of the investments already made to comply with the phase-out and the undoubtedly higher costs of compliance activities that will have to be re-initiated and resumed in the future, in what arguably will be an even more difficult regulatory climate than we have today.

Comments regarding the report's conclusions on imports

Stillwater and Associates project that California cannot import sufficient CARBOB or gasoline blending components to meet the demand for Phase 3 gasoline in 2003. They argue that Gulf Coast refiners are not investing to produce CARBOB, and have no plans to do so; they also argue that Gulf Coast supplies of premium blend components already have a market elsewhere in the Unites States. They found only one foreign refiner capable of manufacturing CARBOB (Irving Oil in Canada). Their work also finds that shipping resources are too limited to transport the necessary cargoes to California, and that port facilities to receive imports are inadequate, particularly in the South Coast. They conclude that Phase 3 gasoline will cost consumers an additional 20-30 cpg under steady state conditions, with occasional shortages of 5-10% likely to increase gasoline prices by 50- 100% (whether those increases were projected to come at the wholesale or retail level was not clear).

These projections cannot be taken lightly. Stillwater and Associates is generally familiar with the industry, and they talked with many industry representatives before making their projections. However, we believe these results should have been expected, and that one must be very careful not to over-interpret their significance. Otherwise, they can be misleading . One does not expect to find excess capacity in an efficient market. Neither does one expect to find domestic nor foreign refiners making plans to fill a supply gap that they do not know will ever materialize.

Unfortunately, neither Stillwater and Associates nor anyone else can predict exactly how the free market will respond to bridge any short-term or on-going supply gap. But, we can be

confident that it will. The free market has allowed the petroleum industry to supply adequate amounts of the cleanest fuels in the world to California consumers and we are confident that it will continue to do so.

In our view, the free market will not allow a California price differential of 20-30 cpg to be sustained. The market will find ways to take advantage of a much smaller differential. It has happened many times in the past, and it will happen again, despite the difficulties outlined by Stillwater and Associates. Refiners with no current plans to manufacture CARBOB will find they can blend significant amounts profitably by "cherry picking" among their most suitable blend components. Ways will be found around the transportation and delivery difficulties. The free market needs to be credited with providing the excess quantities of CARB gasoline that were supplied to the market after each price spike that Stillwater documented, typically driving prices lower than what had been the average.

Comments regarding the report's conclusions on the merits of delay

We agree with Stillwater and Associates' position that it would be pointless to delay the phase-out just for the sake of delay. Their report recommends a 3-year delay, and provides a laundry list of things they expect will happen, or could be made to happen, over those three years that would make MTBE removal less problematic. While we have not had time to analyze each of the many changes that Stillwater and Associates believes will or could occur prior to 2005 that might make MTBE phase-out go more smoothly, we have many questions about the feasibility of some of the more critical ones.

We believe that, if anything, the environment in 2005 is likely be less conducive to a problem-free phase-out of MTBE than is the case today. We also suspect that few if any of the measures suggested in the contractor's report will be instituted during the recommended three-year delay, in fact, given three more years several may move in just the opposite direction. Given that, we do not see the connection between the contractor's recommended phase-out date and their rationale. The contractor should provide the missing nexus.

Federal sulfur regulations, affecting virtually all US refiners, will be phased in during 2004-2006. In our view, Californians will not be well-served if the state superimposes its MTBE phase-out simultaneously with these federal changes, which will preoccupy refiners in other states who might otherwise be able to supply blend stocks. Further, it is entirely possible that the federal government may have instituted a nationwide MTBE phase-out requirement and a renewables requirement that could take effect in much the same timeframe. That would jeopardize both blendstock and ethanol availability, and could create substantial problems for MTBE phase-out in California. We think California would be far better served by being the first to the party. The contractor should examine the added costs to California consumers of a bidding war over ethanol created by the proposed federal renewables mandate. It is over the latter concern that ChevronTexaco supports the Governor's request to delay the onset of the potential federal renewables mandate for several years and not for any of the reasons Stillwater and Associates uses to defend a delay in the state's MTBE ban.

The Stillwater and Associates report suggests that California supply will be augmented substantially in 2005-2006, because the Longhorn pipeline – expected to deliver product to the El Paso area later this year – can be extended to supply 100,000 BPD to Arizona by that date. We believe it unlikely that this can be accomplished given the myriad of issues that would have to be resolved, local area by local area . Also, the contractor's report is internally inconsistent over where those barrels will come from, given their conclusion that the Gulf refineries are assumed to have no excess to supply California.

The report also suggests that the availability of supplies from foreign sources can be increased dramatically by 2005, because foreign refiners will have time to justify projects, and time to make necessary modifications. But why would they do that? How can they justify projects to supply a demand they have no reason to be assured will exist? And why would they believe California is serious about 2005 if it has already delayed Phase 3 gasoline by three years?

Stillwater and Associates also suggest that many of the infrastructure problems they identify in their report can be fixed during a three-year delay. They feel the state can resolve local permit restrictions and NIMBY delays, and that new storage facilities will be built under long-term contracts. We contend that local permitting and NIMBY issues cannot be resolved by the state over any foreseeable period of time. The political issues are much too involved. It is true that the state was able to skirt some local environmental issues to permit new electricity generation capacity, but the alternative presented to Californians was no lights, no heat, no job, and no TV. The Governor is not likely to interfere in these issues based on a speculative projection. MTBE phase-out is in no way analogous to the very real public concern the electricity crisis was.

We also believe that the free market is unlikely to add capacity of any kind, manufacturing or storage, well ahead of perceived need. And this would be especially true if the state should delay the scheduled MTBE phase-out date in so doing demonstrating that there is no certainty in their regulations. The state could add storage via a Strategic Fuels Reserve, if it chooses to do so, although the value received is open to question as is the timing. Such a reserve would be subject to all the same state, federal, and local processes that the contractor identified as impediments to MTBE phase-out.

Markets and the impact of delay

We see a fundamental flaw in the contractor's logic. If, as they contend, the market will not be served in the face of an immediate regulatory requirement, how would it be better served by a delay in that requirement? A change in a regulatory requirement only introduces yet more uncertainty into the compliance plans of the regulated community. How would that community know that the next deadline would not also be extended for much the same reason the current one is under such consideration? The contractor should be challenged to show why the regulated community would not simply shelve all plans for compliance until just the same amount of time remains before the compliance deadline as we now have. They should show why financing for infrastructure investments would not simply dry up in the face of delay for the period of the delay putting the state of compliance in the same position in 2005

as it is today. In sum, the contractor should show why a delay would not simply postpone--for the period of the delay--all the problems they perceive happening now.

Another fundamental flaw is the lack of faith in the open market to solve the perceived problems. In every case of shortage in California, the free market has produced a solution, oftentimes accompanied by a price change that benefited consumers. We recall similar discomfort over what some predicted would be supply shortages when the CARB Phase 2 requirements were implemented in 1996. Undeniably there have been cases where prices have spiked in California when supply has been unexpectedly short. But it is equally true that the market stabilized, oftentimes very quickly, after the market signals caused imports to arrive in the state from unexpected sources. We see no reason why the same situation would not repeat itself.

Recommendation

We believe Stillwater and Associates did a good job of data collection and review. In fact, we have learned a lot from their study, and we are grateful to the Commission for initiating it. The problem comes when one tries to use the results to jump to the conclusion that MTBE phase-out should be delayed, and, moreover, to a specific date. We urge the Commission to slow down the current schedule, examine the issues we raise here, take time to hear from the various stakeholders, and institute meaningful dialog with those stakeholders, who we feel have been absent to this point. Only in this way can the Commission arrive at a fully considered decision concerning what is best for the state.

CITY OF LOYALTON

COUNTY OF SIERRA
210 FRONT STREET
P.O. BOX 128
LOYALTON, CALIFORNIA 96118
(530) 993-6750
FAX (530) 993-6752

OFFICE OF THE MAYOR

February 21, 2002

California Energy Commission
1516 Ninth Street, MS 23
Sacramento, CA 95814

Attention: Debbie Jones for Pat Perez; via fax (916) 654-4676

Re: MTBE Phase-Out- "Stillwater Associates" Report Comments

I am concerned that extending the use of MTBE will have significant environmental impacts on California's water systems. Northern California is the source of the drinking water supplies for most of the state. At the very least, I need your support in maintaining our water quality by ensuring that the gasoline supply of this area is MTBE-free.

I also support the development of the ethanol industry in California. In-state ethanol production can and will increase supplies in California with a clean renewable fuel source, create jobs, stimulate rural economies, return billions of dollars to the state's economy, while also providing for improved water quality, air quality, and forest health.

California agriculture is poised to rise to the challenge of the MYBE phase out by joining together and producing ethanol within the state. This is a great opportunity for California farmers and will provide value-added benefits to the state's agriculture industry, encouraging other regional ethanol production facilities that can utilize a diversity of feedstocks such as agricultural products and by-product materials, woody biomass derived from the wildfire fuels reduction and forest thinning practices, and municipal solid wastes.

I urge you not to move the deadline for phasing out MTBE. Extending the current deadline will have a negative impact to our water systems, severely hamper the development of the ethanol industry in this state, and delay a much-needed economic boost to agricultural and forest based communities within our great state.

Sincerely,

Milton Gottardi
Mayor

February 27, 2002

The Honorable Gray Davis
Governor of California
State Capitol
Sacramento, CA 95814

Dear Governor Davis:

I am writing to you on behalf of the City of Santa Monica to urge your continued commitment to the executive order banning the use of MtBE by the end of 2002. We applaud your courage in signing the executive order in 1999. It was the right decision then, and it is the right decision now.

After six years of bitter experience, Santa Monica has learned how uniquely destructive MtBE is to California's water resources. For over 80 years, Santa Monica's water was safe and reliable. Now, thanks to the oil companies and MtBE, we must rely on imported water from northern California and the Colorado River. For six years, we have been unable to use over 70% of our local groundwater.

MtBE renders precious drinking water supplies unsafe to serve to the public until costly clean up has been completed. When a water agency discovers MtBE contamination, identifying the responsible party to pay for restoration is a long, painful and costly process, in which the oil industry will fight every step of the way. The only way to truly "win" the battle on MtBE is to avoid fighting one in the first place.

There are widespread ramifications to postponing the MtBE ban. Santa Monica's loss is just the tip of the iceberg. We do not want to see other local water supplies contaminated by this pernicious chemical. Every gallon taken out of supply is lost forever and must be imported from elsewhere.

The City of Santa Monica has supported your call upon the EPA to waive the Federal Minimum Oxygen Requirement in gasoline to allow a smoother transition away from MtBE. However, the EPA's failure to act responsibly in this matter should not condemn California to more destruction of its water.

You have been resolute in your MtBE phase-out order. Californians cannot afford to pay the price for the continued use of MtBE. Please protect the health of our citizens and preserve our precious water resources.

Keep the MtBE ban on schedule.

Sincerely,

Michael Feinstein
Mayor

cc: The Honorable Fran Pavley, California Assembly
The Honorable Sheila Kuehl, California Senate
The Honorable Barbara Boxer, U.S. Senate
The Honorable Dianne Feinstein, U.S. Senate
The Honorable Henry Waxman, U.S. House of Representatives
Winston Hickox, Secretary, Environmental Protection Agency
Pat Perez, Manager, Transportation Fuel Supply & Demand Office - California Energy Commission

1685 Main Street • PO Box 2200 • Santa Monica • CA 90407-2200
tel: 310 458-8201 • fax: 310 458-1621 • e-mail: council@santa-monica.org

COMMUNITIES FOR BETTER ENVIRONMENT

February 27, 2002

The Honorable Gray Davis
State Capitol
Sacramento, CA 95814

RE: MTBE Phase Out in California/ Stillwater Associates study

Dear Governor Davis,

On behalf of Communities for a Better Environment (CBE), and our 20,000 members throughout California, I am writing to urge you not to delay the MTBE ban. Every day that MTBE remains in gasoline, it will continue to threaten California's most precious resource – it's water.

Banning MTBE Protects California's Drinking Water: In 1999 you bravely decided to ban the gasoline additive known as MTBE, due to the threats the chemical posed to drinking water throughout the State. After detailed study by the University of California Davis and Lawrence Livermore Laboratories, it has been determined that MTBE has contaminated over 10,000 wells throughout the State of California. As you know, the City of Santa Monica has lost over half of its drinking water supplies, South Lake Tahoe, Santa Clara, Glenville, and other communities have all lost drinking water wells due to MTBE contamination. MTBE is dangerously close to drinking water supplies for Rialto, Fontana, Colton and Bloomington. Up to 5000 private drinking water wells have been contaminated with MTBE. In order to stop this growing catastrophe, you ordered a ban on MTBE by the end of year 2002 – giving the oil industry three years to make necessary adjustments.

Unfortunately, in the wake of a report by Stillwater Associates, you have proposed to give the oil industry another three years to phase out MTBE. CBE believes that such an extension is unwarranted, and would result in increasing MTBE contamination that could cost the state literally billions of dollars to clean-up. (1)

Costs of Additional MTBE Contamination Exceed Costs of Phase-out: The Stillwater Associates report projects that an end-of 2002 MTBE ban would result in substantial gasoline price increases. CBE strongly disagrees with the methodology and conclusions used by Stillwater. However, even if the report is accepted at face-value, it fails entirely to consider the costs of additional MTBE contamination and clean-up. (Page. 49) By contrast, a study commissioned by the City of Santa Monica estimates that MTBE clean-up costs could exceed $29 billion nationwide. Even the Stillwater Report projects that the MTBE ban would cost from $1 to $3 billion – a small fraction of the clean-up cost. Thus, delaying the MTBE ban would be short-sighted, perhaps saving money in the short-term, while costing the State billions in the long-term. (2)

Stillwater Methodology and Conclusions are Erroneous, and the Report is Biased in Favor of the Oil Industry: The Stillwater Reports reads like an oil industry manifesto against all environmental regulation. This bias is clearly reflected from the acknowledgements page to the

1611 Telegraph Avenue, Suite 450 • Oakland, CA 94612 • T (510) 302-0430 • F (510) 302-0437
In Southern California: 5610 Pacific Blvd., Suite 203 • Huntington Park, CA 90255 – (323) 826-9771

conclusion. The report acknowledges an "industry stakeholder" process including "California refiners, representatives of the international trading community, independent marketers, trade associations, governmental organizations such as the State Lands Commission and Port Authorities." Glaringly absent from this list are any environmental organizations, authors of the Lawrence Livermore or UC Davis MTBE reports, environmental regulators, State or Regional Water Board representatives, renewable fuels industry representatives, or virtually anyone without substantial ties to the oil industry. (3)

Not only does the report criticize any MTBE phase-out, but is also criticizes virtually all environmental regulation related to the oil industry, from California clean fuel requirements, to the RECLAIM emission credit program (which was supported by the oil industry in the first place), to SCAQMD oil tanker emission regulations (Rule 1178), environmental permitting requirements which "hamper" refinery growth, and other regulations. Of course, California's environmental regulations, (which are largely responsible for the high quality of life in California), will be in place whether MTBE, ethanol, or some other product is used in gasoline. Thus, this discussion is entirely irrelevant. (4)

The basic premise of the report is that if MTBE, which is currently used at 11% of gasoline, is replaced with ethanol, at a blend rate of about 5.7%, the result will be a net reduction in supply of about 5%, or 50,000 barrels per day. The report somehow concludes that a 5% reduction in gasoline could result in a doubling of gasoline prices. However, this conclusion, which is itself highly questionable, is based on a false premise. Everywhere that ethanol is currently used, it is blended at a rate of 10%, including in Los Vegas, Phoenix, Chicago, Portland, and other locations. If the 10% blend rate is used rather than the 5.7% rate, then there is virtually no reduction in supply by the MTBE phase-out. Then, the only questions are whether there is adequate ethanol supply and the comparative prices of MTBE and ethanol. Currently, ethanol is cheaper than MTBE per gallon, especially when federal tax credits are factored in, and the report does not dispute that there is an adequate supply of ethanol. Thus, based on current per gallon prices of ethanol versus MTBE, one should expect a reduction in pump prices from an MTBE phase-out. (5) (6)

The Stillwater Report has numerous other errors, such as assuming that California fuel usage will continue to grow at historic rates, despite the fact that the state is in a recession, and assuming that tank capacity that is currently used for MTBE cannot be converted to use for ethanol. In short, the Stillwater Report should be rejected by the CEC in its entirety, and a new consultant should be retained to conduct a neutral, objective analysis. CBE would suggest retaining experts from the University of California to ensure objectivity, and to require the contractors to conduct a true stakeholder process with a broad spectrum of interests, rather than including only oil industry representatives. (7)

New Storage Tanks Do Not Stop MTBE Leakage: While some contend that MTBE contamination is no longer a problem due to improved underground storage tanks that have been (8)

installed, studies conducted by Santa Clara and Santa Ana Water Boards indicate that MTBE is so aggressive that it leaks out of even the new improved tanks. Thus, continued use of MTBE will mean continued leakage, and continued contamination of the State's soil and groundwater.

Legislation May be Necessary: If you intend to delay the MTBE ban, then it may be necessary to introduce legislation to ensure that an MTBE ban takes effect by the end of this year. As you know, CBE had co-sponsored legislation to ban MTBE at the time that you enacted your Executive Order to ban the product. While your Executive Order supplanted the legislation then under consideration, if you decide to delay the ban any further, it may be necessary to introduce legislation once again.

Thank you for the opportunity to comment. We strongly urge you to stay firm on your commitment to phase MTBE out of California's gasoline by the end of this year, and to reject the Stillwater Report.

Sincerely,

Richard Toshiyuki Drury
Legal Director

Cc: Winston Hickox, Cal. EPA
Pat Perez, CEC

COUNTY OF NEVADA
STATE OF CALIFORNIA

950 Maidu Avenue • Nevada City, California 95959-8617
Telephone: (530) 265-1480 • *FAX: (530) 265-1234*

BOARD OF SUPERVISORS

Peter Van Zant
Supervisor, 1st District
Resident Phone (530) 477-7639
E-mail peter@petervanzant.com

February 25, 2002

Pat Perez, Project Manager
California Energy Commission
1516 9th Street
Sacramento CA 958714

SUBJECT: MTBE Phase-Out Deadline

Dear Ms. Perez:

I am writing to urge you not to move the deadline for phasing out MTBE. Extending the current deadline will have a negative impact to our water systems, severely hamper the development of the ethanol industry in this state, and delay a much-needed economic boost to agricultural and forest based communities within our great state.

1. Extending the use of MTBE will have significant environmental impacts on California's water systems. Northern California is the source of the drinking water supplies for most of the state. Please support maintaining our water quality by ensuring that the gasoline supply of this area is MTBE-free. (1)
2. In-state ethanol production can and will supply California with a clean renewable fuel source, create jobs, stimulate rural economies, return billions of dollars to the state's economy, while also providing for improved water quality, air quality, and forest health. (2)
3. California agriculture is poised to take advantage of the MTBE phase-out by joining together and producing ethanol within the State. This is a great opportunity for California farmers, and will provide value-added benefits to the State's agriculture industry, encouraging other regional ethanol production facilities that can utilize a diversity of feedstocks such as agricultural products and by-product materials, woody biomass derived from the wildfire fuels reduction and forest thinning practices, and municipal solid wastes.

Please do not extend the MTBE phase-out deadline.

Thank you for your consideration.

Sincerely,

Peter Van Zant
Supervisor, District I

Pvz:pb
cc: SEDD

Pat Perez

County of Tulare

February 28, 2002

Pat Perez, Manager
Transportation Fuel Supply & Demand Office
California Energy Commission
Transportation Energy Division
1516 Ninth Street, MS-29
Sacramento, CA 95814

VIA FACSIMILE (916) 654-4705

Dear Mr. Perez:

The Tulare County Board of Supervisors strongly urges the CEC not to recommend the extension of the MTBE deadline. Each day MTBE remains in our gasoline is another day that our water resources continues to be jeopardized.

The best solution to replacing MTBE is the use of ethanol. This renewable fuel can be made here in California, is abundant in the Midwest, and can be used now to replace MTBE. Your recommendation should include adjusting regulations to facilitate the maximum use of ethanol. The economic benefits of producing ethanol in our region offer exciting potential in the Central Valley.

Our Board appreciates your immediate attention to this urgent matter.

Sincerely,

Steven Worthley, Chairman
Tulare County Board of Supervisors

STATE OF CALIFORNIA
GRAY DAVIS, Governor
DEPARTMENT OF FOOD AND AGRICULTURE
WILLIAM (BILL) J. LYONS, JR., Secretary
1220 N Street, Room 452
Sacramento, CA 95814
(916) 651-7178
Fax: (916) 657-5017

February 25, 2002

California Energy Commission
Fuels and Transportation Committee
Attention: Pat Perez
1516 Ninth St., MS-23
Sacramento, CA 95814

RE: Comments on the Stillwater Associates report and presentation regarding Possible Impacts of MTBE Phase-Out on Gasoline Supplies

The California Department of Food and Agriculture is pleased to provide the following written comments to the Fuels and Transportation Committee regarding the Possible Impacts of MTBE Phase-Out on Gasoline Supplies. The Stillwater Associates report has concluded that replacement of MTBE with ethanol as a fuel oxygenate may lead to 5-10% fuel shortfalls under the current regulatory framework. This single factor has lead the consultants to recommend that the MTBE phase-out be extended by three years to November 2005. We believe this is a hasty conclusion given that the fuel industry has made large investments to prepare for the phase-out this year and that supply networks for additional fuel and blendstocks are still developing. Below, we critique some of the analysis in the report in terms of industry's capabilities to ensure supplies. We also comment on the vital need to understand the stranded costs from the gasoline and ethanol industry that have been aggressively preparing for the post-MTBE era and the environmental costs of another three years of MTBE contamination to California's water supply. These were not considered before drawing a conclusion and are not available for comment in this report. Finally, we believe an alternate conclusion of the report should be to recommend a careful examination of the CA Phase III Reformulated Gasoline regulations. If the predictive model underlying the regulations was updated with recent data on emissions from Tech 5 vehicles and optimized for ethanol blending, refiners would be able to increase volume production to ensure fuel supplies without compromising air quality. The review of the Phase III model could be fast-tracked by the Air Resources Board and would have a much lower cost associated with it than extending the MTBE phase-out deadline.

Below are comments on particular sections of the report:

Section 3.1: In Table 3.1, the numbers for "Direct Impact" should be compared with other volume estimates for blending CA Phase III RFG done by ARB, CEC or other credible sources. A better explanation of the blending methods utilized should also be included. Does this represent 5.7% ethanol blends? Under current regulations, 7.7% ethanol blends may be possible and may offer some volumetric/logistic (1)

advantages. Also, if some updating of the Phase III model were to take place (discussed later), 10% ethanol blends would be possible. These alternative blending scenarios should be explored in terms of their impact on volume to determine where opportunities are to optimize the system without abandoning the MTBE phase-out.

- Section 3.1: The assumptions behind the figures for "Capacity Compensation" on Table 3.1 are not well explained in the text and don't seem to follow other sections of the report. For example, for "Identified blendstock imports by refiners" a figure of 10 TBD is used while on p. 35 it states that "up to 50 TBD could be mobilized at premiums over world market pricing that are not too different than California's higher historical price levels". It is not clear why an additional 40 TBD would not be available in this category, especially given that only the 10 TBD number is carried through over time in the analysis. Under "Major refinery capacity additions" only 22 TBD from a current RFG capacity project is included while several other sections of the report imply a significant incentive for refiners to convert conventional facilities to CA RFG III. Again this presents a problem in the analysis because it assumes that none of these activities will take place over time as demand for RFG increases. (2)

Section 3.2: The supply assumptions in this section are very weak and assume a gasoline industry that will not react to meet demand over time. As stated above, the report identifies opportunities for the industry to increase supply but does not include any of these in the analysis. Also, Figure 3.3 seems to show an existing shortfall of greater than 10% in Southern California although current prices are not significantly different than the northern region. This needs to be reconciled if the report's conclusion that a shortfall of this magnitude will result in a 100% increase in fuel price. (3)

Section 4.5.2: The lack of availability of tank storage is emphasized several times in the report as a limit to fuel supplies but it is not very thoroughly analyzed in this section. It is important to note that MTBE is handled largely as a maritime import while a large portion of the ethanol is anticipated to be delivered by rail. This should free up a significant portion of current maritime tankage for blendstocks and other products. This consideration is not accounted for in the analysis. (4)

Section 6.3: A delay in the MTBE phase-out deadline will increase the uncertainty over California's direction fuel regulation, will stall further fuel industry investment in infrastructure and capacity and will leave the petroleum industry and the ethanol industry with large stranded costs invested to meet the State's original deadline. A last minute change in direction will reduce the confidence of these players and perhaps make a transition to MTBE-free fuels more difficult in the future. The delay also has direct and indirect water and air quality costs to State taxpayers that should be properly addressed before drawing a conclusion to delay the phase-out. Without these sections the report is not complete. We would like to be able to comment on these before the final draft of the report is released. (5)

Stillwater Presentation: Avoided costs of $1 to $3 billion per year was presented as a benefit of delaying the MTBE phase-out. This comes out to 7 to 21 cents per gallon that is much lower than the 50 to 100% price increases that are emphasized in the (6)

report. These figures should be present in the report along with the assumptions underlying the values.

Finally, we believe that the alternative conclusion that could be derived from this report would be to review the States requirements for fuel blending. The report notes that it is not the blending of gas and ethanol, per se, but tight state restrictions on the way that ethanol must be blended that would reduce the volume of gasoline and increase the cost. The California Phase III Reformulated Gasoline regulations cause the tightening of post-MTBE gasoline supplies and other scientific information suggests that they should be reviewed. The predictive model underlying the Phase III regulations does not reflect recent data from Auto Alliance testing on Tech 5 vehicles and has not been optimized for ethanol blending. The model also does not match results from the US EPA Complex model. A recalibrated model would make ethanol-blended fuels more economically viable and could enhance gasoline supplies in the State of California while protecting air quality.

Two aspects of the Phase III Model make it difficult for ethanol to replace MTBE as a fuel oxygenate without resulting in shortages. The first is that the model shows a sharp increase in NOx emissions for oxygenate blends above the 2% oxygen level relative to the baseline fuel. This NOx penalty effectively prevents ethanol blending at levels above 5.7% in California resulting in a near 5% shortfall in fuel volume when compared with the current 11% MTBE blends. The NOx penalty is not well substantiated by recent testing and federal reformulation models. Recent Auto Alliance tests show that ethanol oxygenated fuels reduced NOx relative to non-oxygenated fuels in Tech 5 vehicles that represent 50% of the emissions. The US EPA Complex RFG model also shows reductions in NOx for oxygenated fuels in the opposite direction of the California model. While scientific differences may not be resolved, policy makers need to keep the perspective that what is being argued over is a very small change in ozone forming potential, whether positive or negative. There is a need to come to a scientific or policy consensus on this matter given that it could result in shortage issues. If 10% ethanol fuel blends were permitted as they have been in other ozone sensitive parts of the country, some of the shortage problems from using 5.7% ethanol blends or non-oxygenated fuel might be avoided. (7)

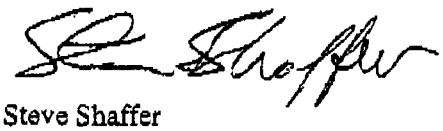
The Phase III model may also not give enough credit for exhaust emissions reductions from the use of ethanol. The model shows about a 0.2 psi RVP credit going from 5.7% ethanol to 10% ethanol. However, the model assumes there is no CO benefit from Tech 5 vehicles. The Auto Alliance tests show significant CO reductions for Tech 5 vehicles as the percentage of ethanol increases. If this was incorporated into the Phase III model the RVP credit would likely double. Increasing RVP will improve total fuel yield at the refinery because fewer pentanes need to be removed from the gasoline. Increasing T50 limits for ethanol blends would also have a positive impact on gasoline yields. The emissions associated with higher T50 could be compensated by lowering limits for aromatics, sulfur or olefins. These changes would be optimizing the model for ethanol blending above 5.7% with no net impact on air quality.

We feel this Committee can take the lead in urging that the Phase III Reformulated Gasoline regulations be re-examined to create better alternatives for ensuring California's fuel supply while maintaining both air and water quality. Reforming the Phase III model to allow for yield optimized ethanol blends may be a critical step to take to give refiners better options for post-MTBE fuel supply. This is a solution that is relatively low cost and can address some of the supply fears presented in this report. The supply and infrastructure for ethanol and other components has been developing but will not continue to develop with uncertainty on behalf of the State. In the long run, ethanol may be the better option in terms of fuel security, economic stability and environmental quality because it is a renewable fuel that California has the resources to produce internally. MTBE and crude oil will always be imported and ever increasing amounts of it from foreign nations. It is important to keep the long-term sustainability of our energy supplies in mind when making these decisions.

California agriculture is well known for the food security it provides for this state and the nation, but it can also provide energy security by supplying ethanol to our transportation sector. Ethanol can be made directly from agricultural commodities like corn, sugarcane and other commodity sources of fermentable sugars within the State. It can also be made from agricultural residues and food processing wastes that are currently underutilized in the State and present waste disposal problems. Ethanol provides an opportunity for developing these agricultural markets and for rural economic improvement right here in California. It is also a renewable fuel source that reduces the State's impact on carbon formation and global climate change. All other alternatives for complying with State and Federal RFG standards represent money that is flowing out of the State for imported fossil fuels. These benefits to California's economy and environment should be factored into these fuel supply decisions. Delaying the phase-out of MTBE may or may not have a large impact on fuel supplies and prices, but it will have negative environmental effects and it will delay the development of a true native California fuel supply. Alternative approaches to deal with what is largely a regulatory problem should be sought. 8

Thank you for your important work on this issue and for considering these comments. If you have any questions or require further input please call me at (916) 653-5658 or Matt Summers at (916) 651-7178.

Sincerely,



Steve Shaffer
Director, Agriculture and Environmental Policy

Pat Perez - Possible Impacts of MTBE Phaseout

From: <DonaldJakel@aol.com>
To: <pperez@energy.state.ca.us>
Date: 2/25/02 10:48 AM
Subject: Possible Impacts of MTBE Phaseout

As a consumer of gasoline, I would be extremely upset to have to pay an additional 50 cents or $1.00 or more for gas, simply because an arbitrary date of 12/31/2002 for MTBE phaseout was blindly adhered to. I urge you to recommend an extension of the phaseout until a successful transition to ethanol has been achieved. Sincerely, DonaldJakel@aol.com

Main Identity

From: "Pat Perez" <Pperez@energy.state.ca.us>
To: <Wmaloney@aol.com>; <pperez@energy.ca.gov>
Sent: Monday, March 04, 2002 10:16 AM
Subject: Re: Possible Impacts on Phaseout of MTBE on Gasoline Supplies

Thanks, Mr. Maloney.

>>> <Wmaloney@aol.com> 02/28/02 06:05PM >>>
Dear Mr. Perez,

I have reviewed the "Stillwater Report" on the possible impacts of the phaseout of MTBE on gasoline supplies in California. While it appears to me that there are several issues regarding the assumptions and conclusions regarding the supply demand balance that are questionable, I address my comments below only to those areas where I and our company have personal and direct knowledge of facts that I believe are pertinent.

Re: Ethanol Supply & Logistics -- Our company ED & F Man Alcohol Inc. is one of the largest international traders of alcohols, fuel, beverage and industrial. We currently supply in excess of 40 million gallons per annum of fuel ethanol to the US West Coast from plants we operate in Jamaica and plants we market product for in Costa Rica and El Salvador. I wish to unequivocally state that we are prepared to supply in excess of 100 million gallons of fuel ethanol per annum to the California market, and the other Carribbean producers that we work with can also supply (in 2003) another 40 million gallons per annum. This product can be supplied at competitive prices with no logistical problems. (1)

We are currently in negotiation with five of the major oil companies representing approximately 85% of California's gasoline supply to supply waterborne barrels of ethanol at prices indexed to gasoline prices or on a fixed price basis. The volume that we are prepared to supply with the other Caribbean producers is equal to the total volume that these oil companies have indicated that they will require by marine delivery. We can also supply the marine needs of the remaining gasoline suppliers -- however, they haven't indicated to us a requirement yet for marine deliveries.

All California's marine ethanol requirements can be provided by the Caribbean producers with no requirement to use US flag vessels.

Further, the logistics for marine delivery are all in place or will be in place by September of 2002. We have worked out the logisitics with each of these major oil companies, some product will be imported into a major oil company facilities in Carson/San Pedro, some into a third party Long Beach terminal, some into our own terminal (Westway) and some into ST/Shore Terminals in Selby. (2)

The feedstock supplies for our ethanol production (primaily Brazil)are currently in plentiful supply. This may not be the case in three years time.

Re: Gasoline supplies -- the report fails to note that a refiner in the Pacific Northwest is capable and willing to supply 20,000 barrels per day of CARBOB to California. A 100% increase in prices is not required to have this supply dedicated to California.

Further, in anticipation of the MTBE phaseout the major oil companies have been able to allocate international resources to California, e.g., alkylates, that will likely not be available three years hence -- when other oil market's economies recover. This will reduce supply disruptions.

In conclusion careful examination of the facts indicates that the best time to implement the phaseout of MTBE is at the end of 2002 -- as all plans, supplies and logisitcs are in place to cover both the ethanol and gasoline requirements.

Sincerely,

William M. Maloney
Director of Business Development
ED & F Man Alcohol Inc.
Tel: 805-682-6976
fax: 805-682-9663

History of Clean, Reformulated Fuels and the Role of MTBE to Improve Air Quality in the United States

Remarks Also Discuss Economic Motivation and the Historical Role of the Archer Daniels Midland Company (ADM) and Their Effort to Ban MTBE

Opening Remarks of Frederick L. Potter
Executive Director of Hart/IRI Fuels Information Services

MEALEY'S MTBE Conference
Marina Del Rey, California
May 11 – 12, 2000

Table of Contents

History of Clean, Reformulated Fuels and The Role of MTBE

To Improve Air Quality in the United States

Introduction

Good morning, my name is Frederick L. Potter, founding publisher of ***Fuel Reformulation*** and ***World Refining*** magazine, and Executive Director of Hart/IRI Fuels Information Services.

I've had the distinct privilege; in fact it has been an honor to be a publisher and analyst covering the global motor fuel business since I first came to Washington back in December, 1979.

You might recall the world was a different place then. Fifty-six Americans were held hostage in Iran, and on December 26, 1979 the Soviet Union invaded Afghanistan. A lot has changed in 20 years.

I've been asked to cover a little bit of history about the use of MTBE and the Federal RFG program, and share my perspective as to how and why we are in the public policy situation on MTBE and RFG that we find ourselves in today.

As David Kortum shared with you, EPA approved MTBE for use in gasoline in 1979, and after elaborate and extensive health testing, authorized expanded use in 1988 and 89.

I might also add, it has been a real pleasure to have the opportunity to work closely on common fuel quality issues with Dave and his team at EPA over the past 20 years. There can be no question that MTBE has provided the United States with extraordinary fuel and air quality improvements over the past twenty years.

The Clean Air Act Amendments of 1990

As part of the ongoing U.S. effort to substantially improve air quality, and after two consecutive U.S. Congressional terms ended in 1987 with no action taken on reauthorizing the Clean Air Act, Vice President George Bush then made his historic commitment to become the "Environmental President". Just over a year later, in November, 1988, he was elected the 41st President of the United States

During the preceding summer of 1988, over100 U.S. cities were in violation of the EPA and Clean Air Act standards for ozone (or smog). The summer of 1988 was one of the hottest summers on record. Both MTBE and other fuel oxygenates such as ethanol then became a very important part of Clean Air Act efforts to reduce summertime smog, and reduce emissions of carbon monoxide in the wintertime. After two years of extensive debate, the Clean Air Act Amendments passed the United States Senate 89-10, and the United States House of Representatives 401-24. On November 15,1990, in a bipartisan White House ceremony widely attended by both industry and government leaders -- President George Bush signed the Clean Air Act Amendments into law. I was honored and pleased to be invited to participate in this historic event.

Marketplace and Public Policy Needs Come Together to Expand MTBE Use

Use of MTBE and fuel ethanol increased levels in U.S. gasoline, as refiners needed both products to satisfy needs for marketplace compliance and public policy improvement.

Key drivers included:

1. New Octane demand and lead phasedown (1980-1990)
2. New State oxyfuel programs in Colorado, New Mexico, Arizona and Nevada (1987-1992), and
3. The winter Oxy-Fuel program in 39 cities (1992) and the Federal RFG program in 17 states and the District of Columbia (1995).

EPA Touts Air Quality Benefits of MTBE and RFG

Ten years after the Clean Air act was signed into law, EPA has widely recognized the federal RFG program and the use of fuel oxygenates such as MTBE have exceeded all original fuel and air quality expectations.

Data collected by refiners, the U.S. Environmental Protection Agency, automakers and others clearly shows that Federal Phase I RFG, in large part because of the use of fuel oxygenates such as MTBE, has surpassed all expectations (i.e. over-complied) by over 13% for air toxics, 13% for VOC's and 8% for NOx.[1]

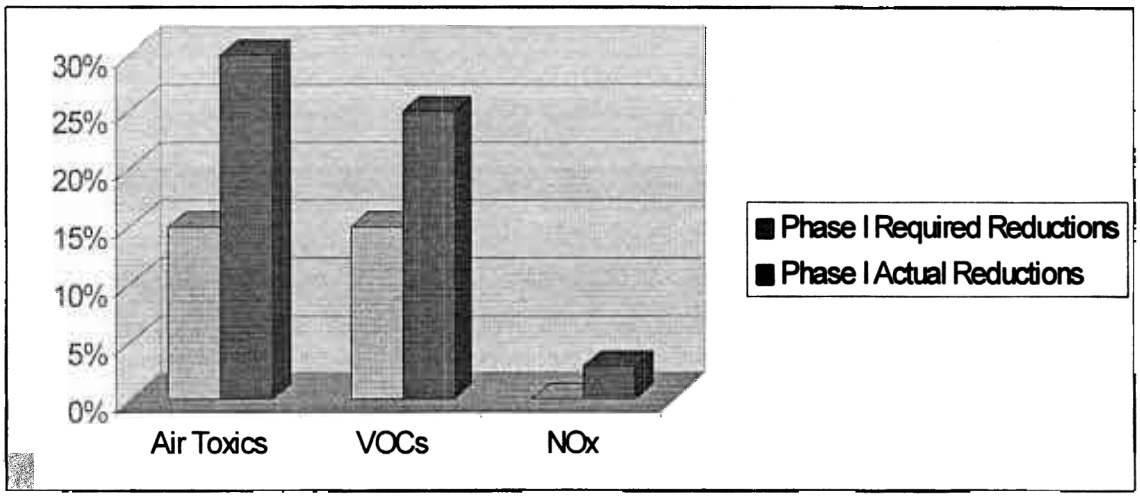
[1] See, e.g. Letter from Robert Perciasepe, Assistant Administrator, U.S. Environmental Protection Agency, to Angus S. King, Governor of Maine, October 30, 1998; Letter from Margo Oge, U.S. Environmental Protection Agency, Office of Mobile Sources, to Harold Reheis, Commissioner, Georgia Department of Natural Resources, December 30, 1997.

MTBE Helps Reduce Ozone, Carbon Monoxide, Particulates, and Air Toxics

MTBE and other oxygenates offer beneficial gasoline blending properties such as high octane and low distillation temperatures, that would not normally occur without their use. Because of their extremely low atmospheric reactivity, and because oxygenates reduce the amount of CO in the atmosphere, oxygenates such as MTBE help reduce ozone formation. Available studies show that the use of oxygenates also substantially reduces primary PM – by as much as 25 – 30%.

EPA's Blue Ribbon Panel on Oxygenates concluded that the "Reformulated Gasoline Program established in the Clean Air Act Amendments of 1990, and implemented in 1995, has provided substantial reductions in the emissions of a number of air pollutants from motor vehicles, most notably volatile organic compounds (precursors of ozone), carbon monoxide, and mobile-source air toxics (benzene, 1,3-butadiene, and others), in most cases resulting in emissions reductions that exceed those required by law."

Federal RFG (with MTBE/ethanol) Emissions Improvement



Source: US EPA Data and Report by National Reformulated Gasoline Hotline

The bottom line is that the President, the EPA, & the Congress were right in 1990, and it shouldn't surprise you that MTBE use in gasoline is still right today

Los Angeles Has Major Success With MTBE

In the summer of 1997, Los Angeles recorded the cleanest air quality record in over 50 years. Peak ozone violations were reduced substantially, and toxics such benzene (a known human carcinogen) were reduced by approximately 50%. MTBE was in nearly (over 95%) every gallon of gasoline sold

MTBE Provides Phoenix With Major Air Quality Improvement

During the same year, Federal RFG, primarily blended with MTBE, was introduced for the first time in Phoenix. CARB gasoline was allowed as a substitute. MTBE was the oxygenate of choice, and Phoenix, for the first in 10 years, did not record a single summertime ozone violation. Improved fuels, almost all which included MTBE, have been a major part of the air quality success enjoyed in both Los Angeles and Phoenix Most other cities can report the same air quality success stories

California Deserves Both Clean Air and Clean Water

California and all of the U.S. deserve both clean air and clean water. We can deliver both -- without banning or phasing-out MTBE – either in California or the U.S. nationwide I've attached both my recent articles on these subjects published in ***World Refining*** in March 99, and July/August 99 (see Appendix A) also wrote California EPA Secretary

Winston Hickox on March 23, 1999. My letter to Secretary Hickox and it's Attachments are included in Appendix B.

Move to Ban MTBE in California Is A Major Step Backward

Sadly, the new CARB Phase III regulations, implementing the California Governor's ban on MTBE, allow increases in aromatics, provide opportunity for the co-mingling effect of ethanol blends, and may actually do nothing to improve air quality compared to the in-use CARB II Fuels which used approximately 11% MTBE

In fact, it is possible that air quality in California could actually get worse, especially when the impact on off-road emissions is considered. The cost to California motorists of the new CARB III fuels without MTBE is estimated to be between 4-10 cents per gallon more, or between $500 million and $1.4 Billion more per year! Unfortunately, due to politics, the recent CARB III fuel property changes adopted in December 1999 have not met good public policy standards

Understanding the Role of ADM and Their Efforts To Ban MTBE

How could this possibly happen? How did it happen? Well, it is impossible to answer this question without first examining and then understanding the economic stake and active role of the Archer Daniel's Midland Company (ADM), and their historic effort to ban ethanol's primary fuel competitor, MTBE. ADM's efforts to go back to the mid - 1980's. Peter Garrett, you'll remember. In 1987, ADM Chairman, Dwayne Andreas spoke before National Corn Growers annual convention. In that speech, he laid out

ADM's corporate strategy, and shared his negative thoughts on MTBE. In his Keynote Remarks, he reminded the corn growers to "Keep your friends close, but your enemies closer".

A few years later, Mr. Andreas put his words into action when ADM purchased nearly 1/3 of all the outstanding shares of ARCO Chemical stock. ARCO Chemical was the largest producer of MTBE. ADM wanted ARCO Chemical to make ETBE instead of MTBE. A successful technical ETBE trial run was completed in 1991, but commercial success was less than original expectations. ADM corporate executives became divided on the ETBE issue. What Mr. Andreas had suggested in *Forbes Magazine,* that soon ARCO Chemical would be one of ADM's biggest customers, never came to pass.

FBI Raid on ADM Headquarters Changes Everything

In 1995 the FBI raided ADM corporate headquarters. Their ETBE efforts ended. When the dust would settle, ADM would conclude it would be cheaper, easier to ban MTBE than to try to make ETBE work. For the record, ADM paid the largest price fixing and Antitrust fine in the history of United States. ADM settled the case, paying a fine of $100 million dollars for corporate antitrust violations for lysine and other products.

Am I wrong about ADM's efforts to ban MTBE? The evidence shows I'm right. Two years later, in December 1997, the fingerprints of ADM's Corporate Executives turned up again as their own hand writing marked up charges in the press release for the office of U.S. Senator Barbara Boxer. ADM, and the organizations they contribute to, encouraged

Senator Boxer to hold hearings on ethanol's competitor, MTBE. ADM, directly and indirectly, paid Dean Reed and *Fuels for the Future* to spread negative and exaggerated information to the public and the press about MTBE. Those efforts have continued. In late February, 1999, just prior to the California Governor's planned scheduled date to announce his decision as to whether MTBE should be banned -- and after $135,000 in directly identified ADM campaign contributions to the California Governor -- ADM executive Marty Andreas was quoted in the Decatur, Illinois newspaper calling MTBE "the worst environmental problem in the history of this country". Interesting timing. (3

A copy of ADM's markup of the Senator Boxer press release is included in the Appendix, and was attached to my letter to Winston Hickox in March of 1999. ADM remains the largest producer and seller of ethanol in the United States, supplying well over 50% of all the ethanol sold to the U.S. refining industry

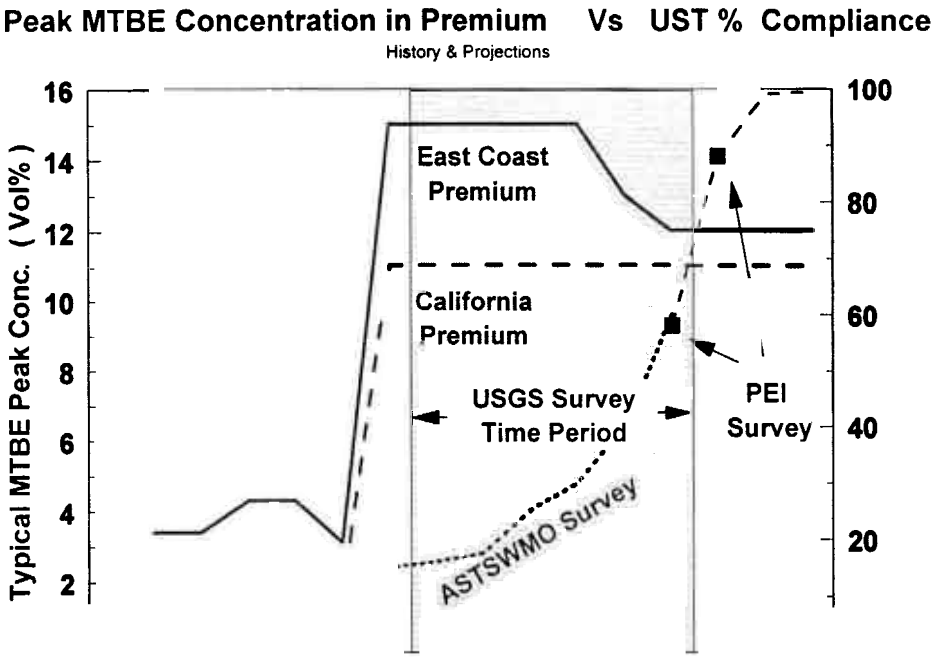
Now, let's look at the facts -- the real historical facts about underground storage tanks

The Underground Storage Tanks Issue – "The Iceberg is Clearly Behind Us"

It was all EPA and the environmental community could do to get Underground Storage Tank legislation through Congress in the 1980s. Republicans and Democrats alike were concerned about small business and the impact of 1984 UST regulations.

Let's look at the historical facts about UST regulation compliance, and reduced MTBE use. This trend is clearly our friend. The UST compliance and MTBE use trends clearly show the iceberg is not in front of us, but well behind us.

Underground Storage Tank Compliance Increases, MTBE Use Decreases



Drinking Water Survey conducted before most UST's in compliance
"Lag time" should also be added for leak to migrate from source

Assoc. of State & Terr. Solid Waste Mgmt Officials, March 1999, Petroleum Equip. Institute, 1st Half 1999

The California Water Situation as it Relates to MTBE is Much Improved

Preliminary review of California Department of Health Services data on MTBE detects in ground water "suggests that despite the negative publicity surrounding MTBE and potential aesthetic issues, MTBE in drinking water should not pose a significant public health hazard in California based on what is currently known about MTBE toxicity and exposures." [2]

[2] Williams, Pamela; Scott, Paul; Hays, Sean; Paustenbach, M. S. and Dennis; Soil Sediment & Groundwater Magazine, April/May 2000, page 63

More importantly, as the level of sampling has increased dramatically, our understanding of the nature of the threat of MTBE contamination to California's drinking water has been greatly enhanced. More recent evaluations based on data from 1995 to 1999 clearly show that the extent of California's Drinking Water exposure to MTBE is declining:

- In 1995, only 17 drinking sources were sampled for MTBE, with 3.4% reporting levels above the minimum analytical limit of detection.

- Approximately 2% of the sampled drinking water sources in California were found to have detectable levels of MTBE in 1999 and about 98% of all sampled drinking water sources in California had no discernible levels of MTBE from 1996 to 1999.

- Average MTBE concentrations for sampled drinking water were the highest in 1995, with an estimated range of 2.6 ppb to 7.4 ppb, depending on the assumed value for non-detects. These values have declined steadily from 1995 to 1999, with the corresponding values ranging from 0.14 ppb to 4.3 ppb in 1999.

- When we focus on the subset of samples where MTBE was detected, the average level in those samples has declined from over 60 ppb in 1995-96 to approximately 10 ppb in 1998-99.

This suggests that the limited number of sources sampled in 1995 were those suspected of MTBE contamination, and that state-wide MTBE contamination of drinking water has not increased over time

The Bottom Line: MTBE Benefits Far Exceed Risks & The Iceberg Has Melted

The air and fuel quality benefits of MTBE continue to more than offset the ground water challenges. This is not the "tip of the iceberg" – and the major MTBE water concerns originally raised in California are long behind us. And we can improve the efforts to enforce existing underground storage tank laws and regulations, including doing a better job on early detection. Gasoline, or any motor fuel, with or without MTBE, should not be leaking from pipelines or underground storage tanks.

Conclusions and Recommendations:

Today the real issue of MTBE and RFG is fixing the leaking tanks. We should also allow US refiners the flexibility to opt-out of Federal RFG if they produce a better fuel (_i.e. CARB II fuel), and provide additional short term MTBE use flexibility in the worst areas where underground storage tank leaks, left undetected or unfixed, have been a major concern. This would include Glenville, CA and South Lake Tahoe, among others.

As public policy baseline, the U.S. should maintain the fuel oxygen standard, and allow refiners and regions of the country the equal opportunity to opt-in, or opt-out of the RFG program if they can produce or supply a better fuel (i.e., CARB II).

As American citizens, it is all of our obligation to contribute where can to make good public policy. We did a terrific job of making good public policy when the Clean Air Act

Amendments passed the United States Senate 89-10, the US House of Representatives 401-24, and the President signed the Clean Air Act Amendments into law on November 15th 1990.

MTBE has been the United States' clean air workhorse -- the fuel compound actually put in U.S. gasoline to provide substantial fuel and air quality improvements.

What Role will all of us play in the final outcome? A positive one I hope – based on sound science, good economics, thoughtful public policy decision making, and without providing an economic windfall or monopoly to any one company uniquely orchestrating to benefit from a ban on MTBE. Again, the company with the most to benefit is ADM. If MTBE is banned, we estimate ADM will increase sales revenue by about $200 million dollars a year. Most refiners would have to buy from ADM -- raising gasoline prices. Everyone else, customers, automakers, refiners, and the environment will pay if MTBE is banned. This would be a great injustice.

As I conclude my remarks and think about the role of MTBE, I somehow am reminded about what one of our great Presidents, Theodore Roosevelt once said.

IT'S NOT THE CRITIC WHO COUNTS

"It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done better."

"The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood... who spends himself in a worthy cause. Who, at the best, knows in the end the triumphs of high achievement and who, at the worst, if he fails, at least does so while daring greatly, so that his place in history shall never be with those cold and timid souls who know neither victory nor defeat."

MTBE has been America's clean air workhorse, replacing lead, reducing winter time carbon monoxide, summer time ozone, and year round emissions of air toxics and particulates. Especially now, as we reach full compliance with existing underground storage tanks regulations, and improve efforts at early detection and prompt remediation, MTBE should not be banned or severely limited for use as a motor fuel compound.

Thank you for the opportunity to share this historical perspective, and provide some positive recommendations for a thoughtful outcome to this debate. extend all of you every good wish on a successful conference.

Thank you very much.

Appendix A

History of Clean, Reformulated Fuels and the Role of MTBE to Improve Air Quality in the United States

Better Understanding the Economic Motivation and Historical Efforts of the Archer Daniels Midland Company to Ban Fuel Ethanol's Primary Competitor, MTBE

Opening Remarks of Frederick L. Potter
Executive Director of Hart/IRI Fuels Information Services

MEALEY'S MTBE Conference
Marina Del Rey, California
May 11 – 12, 2000

FREDERICK L. POTTER
Executive Director

Good Politics in Iowa Won't Make Good Policy in Washington

The assault on the use of MTBE in California has been the product of a well financed, organized, negative media and public profile campaign orchestrated by Archer Daniels Midland's top executives, and the resulting hysteria created by ADM and conservative radio talk show hosts.

Over time (1996 to March of 1999), this "created hysteria" (and the inability to promptly solve the Santa Monica tank and pipeline leak problem) wore out all of California's rational thinking. Even the oil industry, in the end, grew to accept the California Governor's "ban on MTBE". The oil industry's final line of defense melted as concerns about liabilities from leaking tanks, and the resulting necessary clean up costs grew too great.

In the previous August 1998 to February 1999 election cycle, Governor Gray Davis accepted a minimum of $135,000 in campaign contributions from ADM. In late February 1999, Senior Vice-President, Marty Andreas, called MTBE "the worst environmental problem in the history of this country." Really Marty? Worse than DDT, acid rain, and worse than the Midwest fertilizer and pesticide runoff now polluting tributaries and the Mississippi Delta? I doubt it.

But Marty's quote, ADM's campaign contributions, and the negative public profile image created against MTBE by ADM's support group *Fuels for the Future*, run by Dean Reed, can make good politics for some elected officials.

Remember, back in 1990 ethanol was supposed to be the primary oxygenate used in reformulated gasoline (RFG). Well, because the economics were more favorable, MTBE became the oxygenate of choice for most refiners beginning in 1995, and ADM's original business expectations were not fulfilled.

Meeting ADM's business objective has apparently made good politics for Governor Gray Davis, and seems to be doing so for California Senators, Barbara Boxer and Dianne Feinstein—all now working to "ban MTBE." It is a simple message—far easier and less complicated than fixing the leaking underground storage tanks, or understanding the air quality consequences of increasing the use of aromatics, or co-mingling concerns raised by increasing ethanol use in summertime RFG. Should ethanol use be increased in conventional gasoline, or wintertime RFG? Absolutely! But MTBE should not be banned or regulated out of gasoline.

Fixing the Leaking Tanks is the Real Issue

Remember, by year-end 1997 only 58% of California's regulated underground storage tanks were certified as in compliance. Projections for this year, both in the state of California and nationwide, are that 90% of the tanks will be in compliance. What this says, is the groundwater contamination problem caused by leaking tanks is a lot further behind us than it is in front of us. Coupled with new early detection and prompt remediation requirements already in place, only a tiny fraction of the gasoline, ethanol and MTBE that was leaking into groundwater supplies in the past will leak in the future. On the environmental and health issues, all the facts indicate that MTBE is as safe or safer than gasoline, and it helps to substantially improve our nation's fuel and air quality.

But ADM has another political freight train running now. Iowa. And now that Governor Davis has issued his executive order to ban MTBE, and Iowa has limited MTBE use to 2 vol.%, ADM's focus now turns to Washington. The Blue Ribbon Panel EPA has established looks like it will recommend that MTBE use should be "reduced substantially." The California representatives on the Blue Ribbon Panel, on balance, are charged with instituting the Governor's executive order. So the fire ADM started in California, including the role they played in "spinning the press" after the Boxer hearings in December of 1997, has now spread to the heart of Washington. Historically, outside the states of Illinois and Iowa, the nation's capital remains ADM's political home turf—despite the fact ADM was recently convicted of price fixing, and paid a $100 million fine to the U.S. Justice Department—the largest price fixing fine in the history of the United States.

Good Public Policy Requires Strong Executive Leadership

In this election cycle, one must wonder if ADM will be successful again, or whether Washington can stand up and do the right thing. Almost without full comprehension, some parts of Washington seem ready to regulate the use of or ban MTBE. Remember, MTBE has been America's clean air workhorse, playing a major role in the country's effort to improve fuel and air quality through the nation's lead phasedown, oxygenated fuels and reformulated gasoline programs.

If MTBE use is reduced from current levels or banned, ADM will have been successful in "banning its competition." As a result, gasoline prices will rise and air quality will get worse—and ADM will pick up about $200 million more in annual sales revenue. Let's hope that all those who helped ADM along the way can still hold their heads high. This time around, ADM's good politics in Iowa won't make good policy in Washington. ■

California Deserves Clean Air & Water

FREDERICK L. POTTER
Executive Director

I have been involved in the U.S. and global development of cleaner burning fuels as a motor fuel analyst, publisher and public policy observer in Washington for the past 20 years. On Feb. 24 and 25, the California Environmental Protection Agency took comments on the UCAL Davis study on MTBE and related ground water contamination issues. I had the following to say.

- The leaking underground storage tank problem, which persists in the state of California and the groundwater contamination from motor fuel components, including MTBE, must be solved in the immediate time frame. California citizens deserve no less.
- Let's make sure we all understand the background and public policy rational for the foundation of the Federal RFG Program, and the important role that the Federal RFG Program and California's RFG — each which includes a major role for MTBE, ethanol and other fuel oxygenates — have played in bringing air quality improvement across the U.S., and many other parts of the world. Without California's leadership, and the lead of the U.S., Europe would not be embarking on its fuel quality improvement program for 2000 and 2005. Lead is being reduced all over the world, and cleaner fuels, lower aromatic, lower sulphur gasolines are being introduced in Asia, South America, Mexico and Canada. The pace and magnitude of this change would be substantially slowed without California's leadership and the proven progress made by its leading refiners. Arco Corp. deserves particular credit. And it's worth noting that this is the 10-year anniversary of Arco's EC-1 Clean Burning Gasoline.
- Now, is not the time to ban MTBE before a thoughtful understanding of the consequences is fully understood — although MTBE use can be reduced.

Facts:

- MTBE and other clean burning fuel oxygenates are used in every gallon of gasoline sold in Los Angeles, California.
- Last summer, Los Angeles recorded the cleanest air in 50 years. MTBE was in nearly every gallon sold.
- Federal law requires the use of clean burning oxygenates in Federal RFG including three cities in California.
- In California's neighboring state, Arizona, an all hydrocarbon, low Rvp fuel was used for three continuous summers in Phoenix. Air quality got much worse. In 1997, Federal RFG and California RFG (including the use of MTBE) replaced this nearly all hydrocarbon fuel. As a result, Federal RFG (with MTBE) assisted Phoenix in meeting its air quality standards for the first time in ten years!

Exactly how does MTBE and other oxygenates provide these benefits? And why is Washington so deeply interested in participating in the California decision-making process on this subject?

- When clean burning MTBE is used in RFG, approximately 10% less crude oil is used to make gasoline. The U.S. Congress and other national policy makers clearly understand that MTBE and other clean burning oxygenates like ethanol can lessen U.S. dependence on foreign oil, and reduce the amount of crude oil used at U.S. refineries — thereby also saving stationary source emissions of VOC's, Nox and air toxics. This secondary effect has also been a great benefit to the L.A. basin, and still serves as the basic public policy rational to the Reformulated Gasoline Amendments to the 1990 Clean Air Act.
- It is precisely for these public policy reasons why the much discussed Bilbray/Feinstein Legislation hasn't simply sailed through the Congress. It is also why national leaders such as Senator Tom Daschle, EPA Administrator Carol Browner, and U.S. DOE Secretary Bill Richardson, have great difficulty in supporting initiatives that simply propose to ban or phaseout these proven benefits.
- One such proposal has been offered to Governor Gray Davis by U.S. Senator Tom Daschle. He is offering an immediate adoption of the Bilbray/Feinstein Legislation for a two-year period to provide immediate relief to the required amount of MTBE used by California refiners.
- Benzene in gasoline is a known human carcinogen. Recent studies continue to conclude MTBE is not a ser ious cancer risk to humans. If MTBE is taken out of gasoline, most refiners will increase crude oil processing operations, which results in higher aromatic content gasolines. These aromatics combust into benzene in tailpipe exhaust.
- Higher aromatics will contribute to increase combustion chamber deposits, higher NO_x, more reactive and ozone forming VOC's, and increased CO_2 and PM 2.5 emissions.

Back to the water issue:

- According to the California State Audit Report, only 52% of the underground storage tanks are in compliance with the Federal standard of December 1998.
- If pipeline, storage and retail tanks are fixed, MTBE will not leak.

Conclusion

If we fix the tanks, we will fix the problem. Then, California can have not only the world's best 21st Century air and fuel quality programs, but a fuel transportation and storage program that equally serves its citizens in the same quality manner. ■

Appendix B

History of Clean, Reformulated Fuels and the Role of MTBE to Improve Air Quality in the United States

Better Understanding the Economic Motivation and Historical Efforts of the Archer Daniels Midland Company to Ban Fuel Ethanol's Primary Competitor, MTBE

Opening Remarks of Frederick L. Potter
Executive Director of Hart/IRI Fuels Information Services

MEALEY'S MTBE Conference
Marina Del Rey, California
May 11 – 12, 2000

INFORMATION RESOURCES, INC.

Frederick L. Potter
President

ADVISORY BOARD

Lodwrick M. Cook
Worldwide Petroleum Business

Joseph M. Colucci
Automotive Fuels

Jim Kinnear
Worldwide Petroleum Business

Worldwide Petroleum Business

Ken Dickerson
Petroleum & Quality Fuels

Arthur Suchanek
Worldwide Refining Technology

Calvin Hodge
Petroleum Refining

C. Boyden Gray
Federal & Congressional Affairs

Howard Buffett
Agriculture, Ethanol & ETBE

William G. Rosenberg
Environment & Fuels Policy

Francis H. Palmer
International Fuels Issues

[redacted]ayashi
Pacific Rim Fuels Issues

George H. Unzelman
Octane & Refined Products

Herbert W. Bruch
Senior Refining Advisor

Nancy D. Yamaguchi, Ph.D.
International Motor Fuels

William W. Haynes
Petroleum Finance & Management

Chandra Prakash
Clean Fuels & Additives

Alan Smith
Automotive Fuels

William C. Holmberg
Environment & Sustainable Energy

Plinio Mario Nastari
BioMass & Alternative Fuels

George Rose
Fuel Oxygenates

Pierre Latour
Information & Management Technologies

March 23, 1999

The Honorable Winston H. Hickox
Secretary for Environmental Protection
California EPA
555 Capitol Mall, Suite 525
Sacramento, California 95814

Enclosures Delivered Via: Federal Express

Dear Secretary Hickox

As a follow up to our personal conversations in Sacramento on February 23 and 24, and my following conversations with Alan Lloyd, enclosed is the facsimile from Dean Reed and ***Fuels for the Future*** to senior ADM executives, Dwayne Andreas, Marty Andreas, and Allan Andreas. The material speaks for itself -- and shows that the demise of MTBE, especially in California, has long been planned, orchestrated, and funded by ADM's senior executives.

As the "supplier of last resort" to the state of California, ADM commands 70-80% of the available merchant gallons of ethanol which can be reasonably delivered to the state of California. Based upon the expectant 25-30 cents per gallon ethanol price increase invoked by a California ban or phasedown of MTBE, this is a potential $200 million per year sales windfall to ADM. This is likely to happen because an unsuspecting and vulnerable population was told over and over again about unfounded scare stories designed to remove MTBE from commerce -- a defacto ban orchestrated by a competitor with $200 million annually to gain, or a potential $1 billion sales increase over five years. Air quality will get worse in California without MTBE. Further, already tight California gasoline supplies will be reduced directly by the amount of MTBE phased-out, as ethanol used to replace MTBE requires an equal amount of pentanes to be eliminated from gasoline at the refinery (i.e., 11 vol.% MTBE out =11 vol. % gasoline supply constraint). The resulting gasoline price increase in California will be overwhelming.

As you may know, I've been a lead analyst in the fuels business and a public policy observer in Washington for 20 years now Mr. Secretary. Over the years I have received consulting monies from ADM, from the oil companies, and from MTBE producers. I am and have always been an ethanol supporter -- but this ADM ***Fuels for the Future*** thing is the worst I've seen. It is a clear injustice to California citizens, to air quality, to California refiners, and to the state of California. I can't believe the California Governor has the true story here.

I just thought you would want to be aware of the terrific injustice almost nearly completed by ADM. For a company that has done many good things, in soybeans, and better, healthier foods, to the expanded poultry production in the former Soviet Union -- this really crosses the line.

I am so troubled about this Mr. Secretary, that I feel obligated to copy this same message to other interested and impacted parties in the state of California, the U.S. Congress, and the U.S. EPA.

Sincerely yours,

Frederick L. Potter

cc: U.S. EPA, U.S. Congress, State of California. and the Environmental Community

FAX from the T. Dean Reed Co.

Date 12/10/97

Number of pages including cover sheet: 3

TO: Dwayne Andrews
Marty Andrews
Allen Andrews

Phone
Fax Phone

FROM: Dean Reed
c/o T. Dean Reed Company
1155 15th Street N.W., Suite 1003
Washington, D.C. 20005

Phone 202/223-3532
Fax Phone 202/223-5609

CC:

REMARES: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please Comment

FYI

HARRIS SEE INSERT

5

EPA IS ASKED TO USE EMERGENCY POWERS AGAINST MTBE;
'WE'VE GOT TO STOP PROBLEM NOW,' SEN. BOXER SAYS;
'ASTRONOMICAL' CLEAN-UP COSTS IN CALIFORNIA

WASHINGTON, Dec. 10, 1997 -- The U.S. Environmental Protection Agency has been asked to exercise emergency powers and ban use of MTBE, the controversial gasoline additive, [illegible].

Sen. Barbara Boxer (D-Calif.), at a special Senate committee hearing in California this week, called on EPA Administrator Carol Browner to take immediate action against MTBE, which has contaminated drinking water in California and has been the subject of health concerns across the nation.

EPA officials were said to be studying the agency's legal authority to determine whether MTBE can be banned under its regulatory powers.

The Los Angeles Times quoted Sen. Boxer as saying that Browner does have that authority: "I really think she ought to consider doing that right now," Boxer said.

Sen. Boxer also said she supports legislation proposed in Congress by R U.S. Rep. Brian Bilbray (R-Calif.), which was endorsed earlier by California's senior senator, Sen. Dianne Feinstein (D-Calif.). Bilbray has introduced a bill in the House of Representatives that would effectively permit California to be exempted from federal requirements for oxygenates in gasoline, intended to clean the air.

MTBE is the oxygenate used almost exclusively in California, where oil compnaies have fought to keep ethanol, the competing oxygenate made from corn and other sources, from being used in California. Ethanol is permitted to be used in almost all other states in the U.S., including Alaska, where MTBE was banned [illegible].

A long list of witnesses testifying at Sen. Boxer's hearing in Sacramento Tuesday denounced the use of MTBE. At one point,

Sen. Boxer sniffed a container of MTBE and pronounced it "vile."

A representative of California water providers told Sen. Boxer the public may lose confidence in the safety of drinking water if action is not taken against MTBE. Stephen Hall, executive director of the Association of California Water Agencies, said the costs of cleaning up water wells contaminated by MTBE can be "astronomical."

Meanwhile, representatives of the Environmental Protection Agency said they are ceasing national consumer advisory alerting water agencies that MTBE should be limited to no more than 20 to 40 parts per billion in water. At the Boxer hearing, recommendations were made that MTBE not be permitted at levels higher than five parts per billion.

Insert p. 1 -

"We have enough information," Sen. Boxer said, according to the San Francisco Chronicle. "We've got to stop the problem now."

MTBE

almost all other states in the U.S., including Alaska, where MTBE has been banned and ethanol used exclusively.

A long list of witnesses testifying at Sen. Boxer's hearing in Sacramento Tuesday denounced the use of MTBE. At one point, Sen. Boxer sniffed a container of MTBE and pronounced it "vile."

A representative of California water providers told Sen. Boxer the public may lose confidence in the safety of drinking water if action is not taken against MTBE. Stephen Hall, executive director of the Association of California Water Agencies, said the costs of cleaning up water wells contaminated by MTBE may be "astronomical."

Meanwhile, representatives of the U.S. Environmental Protection Agency said

bearing, recommendations were made that MTBE not be permitted at levels higher than five parts per billion.

#

Article 5 of 9

EPA Is Asked to Use Emergency Powers Against MTBE; 'We've Got to Stop Problem Now,' Sen. Boxer Says; 'Astronomical' Clean-Up Costs in California Expected

12/10/97
PR Newswire

WASHINGTON, Dec. 10 /PRNewswire/ -- The U.S. Environmental Protection Agency has been asked to exercise emergency powers and ban use of MTBE, the controversial gasoline additive that has leaked into water supplies.

Sen. Barbara Boxer (D-Calif.), at a special Senate committee hearing in California this week, called on EPA Administrator Carol Browner to take immediate action against MTBE, which has contaminated drinking water in California and [redacted] the subject of health concerns across the nation.

EPA officials were said to be studying the agency's legal authority to determine whether MTBE can be banned under its regulatory powers.

The Los Angeles Times quoted Sen. Boxer as saying that Browner does have that authority; "I really think she ought to consider doing that right now," Boxer said.

"We have enough information," Sen. Boxer said, according to the San Francisco Chronicle. "We've got to stop the problem now."

Sen. Boxer said she supports legislation proposed in Congress by U.S. Rep. Brian Bilbray (R-Calif.), which was endorsed earlier by California's senior senator, Sen. Dianne Feinstein (D-Calif.). Bilbray has introduced a bill in the House of Representatives that would permit California to be exempted from federal requirements for oxygenates in gasoline, intended to clean the air.

MTBE, or methyl tertiary butyl ether, is the oxygenate used almost exclusively in California, where oil companies have fought to keep ethanol, the competing oxygenate made from corn and other sources, from being used in California. Ethanol is permitted in almost all other states in the U.S., including Alaska, where MTBE has been banned and ethanol used exclusively.

A long list of witnesses testifying at Sen. Boxer's hearing in Sacramento Tuesday denounced the use of MTBE. At one point, Sen. Boxer sniffed a container of water with MTBE and pronounced it "vile."

A representative of California water providers told Sen. Boxer the public may lose confidence in the safety of drinking water if action is not taken against MTBE. Stephen Hall, executive director of the Association of California Water Agencies, said the costs of cleaning up water wells contaminated by MTBE can be "astronomical."

Meanwhile, representatives of the U.S. Environmental Protection Agency said they are releasing a national consumer advisory alerting water agencies that MTBE should be limited to no more than 20 to 40 parts per billion in water. At the Boxer hearing, recommendations were made that MTBE not be permitted at levels higher than five parts per billion.
/CONTACT: Dawn Reed of Fuels For The Future, 202-223-3532/ 12:56 EST

"Stealth Lobby Drives Fuel Additive War"

By SARA FRITZ, DAN MORAIN, Los Angeles Times Staff Writers
Monday, June 16, 1997

WASHINGTON--In a high-stakes market war between the ethanol and petroleum industries, Bob O'Rourke is playing a role that makes sense only in the shadowy world of influence peddling: He is an undercover publicist.

While most promoters try to maintain as high a profile as possible, O'Rourke admits only when pressed that he is a "public affairs consultant" for the ethanol industry. He also acknowledges that he sometimes gives advice to a controversial citizens group called Oxybusters, which is campaigning to ban a petroleum-based additive that competes with ethanol to make gasoline burn cleaner.

But O'Rourke refuses to disclose the name of his employer. And he blames covert consultants in the opposing camp for trying to create the impression that he is quietly working on behalf of the nation's most controversial ethanol producer, Archer Daniels Midland Co.

O'Rourke's struggle to preserve his anonymity offers a rare glimpse into the little-known but widely practiced art of undercover lobbying, a trade pursued by public relations specialists hired by big corporations to secretly influence the news media, sponsor grass-roots activities and generate favorable scientific reports.

It also serves as a cautionary tale for California consumers, who are being bombarded through radio talk shows and news outlets with information challenging the safety of the petroleum additive, which is called MTBE. Insiders say some of the controversy is being generated by industry-paid operatives, such as O'Rourke, whose allegiances are not always clear.

Stakes High for Both Industries

Although the byplay in this drama is sometimes confusing, O'Rourke observed: "It's pretty clear that what is going on here is a fierce battle for market share. On one side is MTBE and the petroleum industry; on the other side is the ethanol industry." The stakes in this cloak-and-dagger influence war are extremely high.

In California and other states where MTBE is added to gasoline to reduce air pollution, opponents are campaigning to ban the additive on grounds that it merely transfers the environmental degradation to the ground, where it threatens the safety of drinking water. MTBE makers believe this campaign is designed to destroy their $3-billion-a-year industry.

At the same time, makers of the ethanol industry's competing gas additive, ETBE, which is not as widely used as MTBE, are struggling to salvage a federal tax subsidy that is under assault in Congress. Since 1979, it is estimated, the subsidy has meant $7 billion to American agribusiness.

Technically, subsidies for ethanol production and the safety of MTBE are not directly linked by any single legislative proposal. But industry analysts see the attack on MTBE as an effort by the ethanol makers to preserve their tax advantages and expand their market.

As Joe Piernock, spokesman for Arco Chemical Co., which produces about 14% of the world's MTBE supply, observed:"If the unthinkable happens and that bill in California gets passed and MTBE is banned, what other oxygenate is there? Ethanol."

While combatants on these issues are heavily involved in traditional lobbying efforts--meeting regularly with members of Congress and state legislators--they have also adopted more roundabout tactics, in large part to counter what they see as their lack of popularity among consumers.

For executives in the petroleum industry, which has long been portrayed by critics as a profit-hungry enemy of the consumer, adverse publicity is nothing new. But as insiders see it, the ethanol industry's public relations problems are of more recent origin--aggravated by recent allegations of price-fixing leveled against the industry's giant, Archer-Daniels-Midland.

Essentially, the petroleum industry has set out to ally itself with the clean-air lobby while the ethanol side appears to be working with so-called chemical-sensitivity activists, concerned about adverse effects of MTBE on public health, and conservative radio talk-show listeners, who tend to distrust their government.

Experts say the decision by the oil and ethanol industries to adopt stealth tactics and ally themselves with more sympathetic causes also reflects a dramatic change in the business of corporate lobbying. It is now standard for unpopular special interests to recruit popular organizations to help fight their causes or to create front groups with positive-sounding names.

Piernock observes that these tactics are what corporate America must do to defend itself in the current political climate.

By all accounts, each industry has corralled an army of professional publicists, scientists, activist groups, radio talk-show hosts and legislators to argue its case. And while they seem to engage in similar activities, those on the MTBE side seem more forthcoming about their industry ties.

Eric Dezenhall, a partner in Nichols-Dezenhall Communications Management Group of Washington, which is engaged in pro-MTBE public relations, says he is proud to admit he is working under contract for Arco Chemical Co. "It matters who pays you; we feel we have got to disclose who our clients are," Dezenhall said.

But like O'Rourke, ethanol industry promoters seem reluctant to reveal the source of their income. "I really can't talk about any relationships with clients," O'Rourke said.

Dean Reed, another Washington publicist who regularly churns out pro-ethanol-subsidy press releases for a group called Fuels for the Future, also refuses to identify his employer. He admits, however, Fuels for the Future is not a citizens group but the title of what he calls his ethanol project.

Among scientists, the situation is similar. By and large, scientists who promote MTBE by testifying at legislative hearings admit being paid by the oil industry while those who criticize the additive insist that they are independent of the ethanol industry.

The most prominent scientists opposing MTBE, Peter M. Joseph, professor of radiologic physics at the University of Pennsylvania, and Myron A. Mehlman, the ex-toxicologist for Mobil Corp. who is suing his former employer--staunchly deny receiving any financial support from the ethanol industry.

Joseph says he suffers from headaches and other adverse health effects of MTBE, and Mehlman seems to be motivated primarily by what an industry source describes as "a one-man vendetta against the oil industry." But oil executives say the ethanol industry is footing the bill for some of the men's travel expenses.

In addition, Mehlman frequently identifies himself as an adjunct professor at Robert Wood Johnson Medical School in New Jersey, even though school officials say he no longer teaches there.

Even on the oil industry side, disclosure is not always complete. John Mennear, retired professor of toxicology at the Campbell University School of Pharmacy in Cary, N.C., is paid by Arco for his advocacy work. Yet, Mennear has written several letters to newspapers in New Jersey identifying himself only as a retired toxicologist.

Mennear, who also has written papers playing down the environmental risks of secondhand cigarette smoke, says he is motivated by science, not greed. "Oxybusters probably would say about me that 'Mennear would do anything for a buck,' but that's not true," he said.

In California, the powerful Western States Petroleum Assn., composed of the major oil companies, is leading the lobbying drive to defend MTBE. The association spent $1.8 million on lobbying last year and another $600,000 in the first quarter of 1997, including $230,000 for lobbying by Kahl/Pownall Advocates.

The oil industry group is working so closely with state officials that John Dunlap, chairman of the California Air Resources Board, convened a meeting of oil lobbyists and environmentalists last month at the offices of Kahl/Pownall to develop a common strategy.

"This is a unique situation," said Janet Hathaway, an attorney for the Natural Resources Defense Council, which is part of the oil industry coalition. "This is the first time that the oil industry saw their interest as coinciding with the NRDC's."

Alliances Form With Oil Interests

Also allied with oil interests in Sacramento is the American Lung Assn., which supports reformulated gasoline because it has cut air pollution. Ethanol industry officials assert that oil lobbyists have even co-opted the federal Environmental Protection Agency, which supports continued use of MTBE even though it has been classified as a possible carcinogen.

Earlier this month, the Western States Petroleum Assn., the American Institute and the Oxygenated Fuels Assn. sponsored free seminars for local water officials throughout California, extolling the virtues of reformulated gasoline.

Oxybusters had its beginnings in New Jersey, but it has been springing up elsewhere. In California the group is led by Jodi Waters, a Lodi computer consultant who said she believes MTBE has damaged her memory and the health of her four children.

"I didn't have four children so [the government] could poison them," said Waters, who said she first learned about MTBE in November, when she heard an interview with Joseph on KSFO radio.

In virtually every state where Oxybusters is active, it depends heavily on conservative talk shows to spread its message. New Jersey radio talk-show host Jim Gerhardt has created an "Oxybusters" theme song he plays whenever the subject arises on his program.

Radio talk-show personalities see MTBE as a perfect issue for their listeners, most of whom dislike government regulation.

"My job is to build an audience; how I do it is my business," said Geoff Metcalf, a KSFO talk-show host who often focuses on reformulated-gas issues. "They are ballistic over it. . . . The thing that hit their hot button was, 'Don't screw with my car.' "

These radio talk shows have a big impact on politicians, according to Fred Craft, who heads the Oxygenated Fuels Assn. For example, Craft says, Rep. Don Young (R-Alaska) once told him radio talk shows were entirely responsible for his interest in the MTBE issue.

In most states, Oxybusters depends on a single conservative legislator, such as California state Sen. Richard Mountjoy (R-Arcadia), to press the legislature to ban MTBE. Gary Patton, lobbyist for the Planning and Conservation League, contends Mountjoy is using the issue to widen his political base.

"He is running for lieutenant governor," Patton says. "He is trying to make himself the champion of people who believe there is a conspiracy between government and big business. That is what talk radio is selling."

Mountjoy says he became an anti-MTBE convert last year, when he was using gasoline to wash tar off of an automobile fender and his gloves began to dissolve. "I've been washing parts in gasoline for years, and I never had that happen," he says. "That stuff is bad news."

Oxybusters has been so successful at building opposition to MTBE in many states that the oil industry has quietly launched an investigation of the group to determine how it is funded.

The probe recently yielded evidence allegedly demonstrating that Oxybusters receives financial support from Archer-Daniels-Midland through O'Rourke.

Documents apparently taken from O'Rourke's trash and made available to the news media by sources who demanded anonymity indicate that the ethanol public relations specialist has been billing Archer-Daniels-Midland $5,000 a month plus expenses for his work.

"I don't think O'Rourke created Oxybusters, but I do think he is providing them with valuable professional help," says Arco Chemical's Piernock. "There's no other explanation. Otherwise, you have to believe that all of a sudden, [Oxybusters President] Barry Grossman got a Ph.D. in English literature and started writing beautiful prose."

Documents obtained by The Times indicate that O'Rourke, a former employee of the American Petroleum Institute, is also supplying Archer-Daniels-Midland Vice President Martin L. Andreas with intelligence gleaned from his sources in the petroleum industry.

In a memo dated Nov. 30, 1995, and addressed to Andreas, O'Rourke quoted a friend at the American Petroleum Industry reporting that the oil industry was "extremely concerned" about the growing public outcry against reformulated gas.

O'Rourke strongly denies ever being employed by the giant agribusiness firm. "I write memos to lots of people," he says. "That's my job."

Both Archer-Daniels-Midland and the Alternative Fuels Assn., an ethanol industry group, deny assisting Oxybusters. "We never gave Oxybusters a dime, nor do we have a relationship with them," says Karla Miller, an Archer-Daniels-Midland spokeswoman.

Oxybusters founder Grossman, a salesman from Plainsboro, N.J., insists that the group is financed out of the pockets of its members. He acknowledges receiving advice from O'Rourke but describes it as minimal, adding: "We let anybody help."

O'Rourke says he first got in touch with Grossman because Oxybusters was mistakenly condemning all reformulated gas, including the type using ethanol. He insists that ETBE is harmless. He says he now talks to Grossman no more than twice a month.

From O'Rourke's perspective, the most surprising element of this intrigue is the indication that the oil industry may have spied on him and Oxybusters. He says he has reason to believe that oil industry officials even obtained records of Oxybusters' bank account.

"That just blew my mind," O'Rourke said. "There have been a lot of really wild charges being made here."

California Deserves Clean Air & Water

FREDERICK L. POTTER
Executive Director

I have been involved in the U.S. and global development of cleaner burning fuels as a motor fuel analyst, publisher and public policy observer in Washington for the past 20 years. On Feb. 24 and 25, the California Environmental Protection Agency took comments on the UCAL Davis study on MTBE and related ground water contamination issues. I had the following to say.

- The leaking underground storage tank problem, which persists in the state of California and the groundwater contamination from motor fuel components, including MTBE, must be solved in the immediate time frame. California citizens deserve no less.
- Let's make sure we all understand the background and public policy rational for the foundation of the Federal RFG Program, and the important role that the Federal RFG Program and California's RFG — each which includes a major role for MTBE, ethanol and other fuel oxygenates — have played in bringing air quality improvement across the U.S., and many other parts of the world. Without California's leadership, and the lead of the U.S., Europe would not be embarking on its fuel quality improvement program for 2000 and 2005. Lead is being reduced all over the world, and cleaner fuels, lower aromatic, lower sulphur gasolines are being introduced in Asia, South America, Mexico and Canada. The pace and magnitude of this change would be substantially slowed without California's leadership and the proven progress made by its leading refiners. Arco Corp. deserves particular credit. And it's worth noting that this is the 10-year anniversary of Arco's EC-1 Clean Burning Gasoline.
- Now, is not the time to ban MTBE before a thoughtful understanding of the consequences is fully understood — although MTBE use can be reduced.

Facts:

- MTBE and other clean burning fuel oxygenates are used in every gallon of gasoline sold in Los Angeles, California.
- Last summer, Los Angeles recorded the cleanest air in 50 years. MTBE was in nearly every gallon sold.
- Federal law requires the use of clean burning oxygenates in Federal RFG including three cities in California.
- In California's neighboring state, Arizona, an all hydrocarbon, low Rvp fuel was used for three continuous summers in Phoenix. Air quality got much worse. In 1997, Federal RFG and California RFG (including the use of MTBE) replaced this nearly all hydrocarbon fuel. As a result, Federal RFG (with MTBE) assisted Phoenix in meeting its air quality standards for the first time in ten years!

Exactly how does MTBE and other oxygenates provide these benefits? And why is Washington so deeply interested in participating in the California decision-making process on this subject?

- When clean burning MTBE is used in RFG, approximately 10% less crude oil is used to make gasoline. The U.S. Congress and other national policy makers clearly understand that MTBE and other clean burning oxygenates like ethanol can lessen U.S. dependence on foreign oil, and reduce the amount of crude oil used at U.S. refineries — thereby also saving stationary source emissions of VOC's, Nox and air toxics. This secondary effect has also been a great benefit to the L.A. basin, and still serves as the basic public policy rational to the Reformulated Gasoline Amendments to the 1990 Clean Air Act.
- It is precisely for these public policy reasons why the much discussed Bilbray/Feinstein Legislation hasn't simply sailed through the Congress. It is also why national leaders such as Senator Tom Daschle, EPA Administrator Carol Browner, and U.S. DOE Secretary Bill Richardson, have great difficulty in supporting initiatives that simply propose to ban or phaseout these proven benefits.
- One such proposal has been offered to Governor Gray Davis by U.S. Senator Tom Daschle. He is offering an immediate adoption of the Bilbray/Feinstein Legislation for a two-year period to provide immediate relief to the required amount of MTBE used by California refiners.
- Benzene in gasoline is a known human carcinogen. Recent studies continue to conclude MTBE is not a ser ious cancer risk to humans. If MTBE is taken out of gasoline, most refiners will increase crude oil processing operations, which results in higher aromatic content gasolines. These aromatics combust into benzene in tailpipe exhaust.
- Higher aromatics will contribute to increase combustion chamber deposits, higher NO_x, more reactive and ozone forming VOC's, and increased CO_2 and PM 2.5 emissions.

Back to the water issue:

- According to the California State Audit Report, only 52% of the underground storage tanks are in compliance with the Federal standard of December 1998.
- If pipeline, storage and retail tanks are fixed, MTBE will not leak.

Conclusion

If we fix the tanks, we will fix the problem. Then, California can have not only the world's best 21st Century air and fuel quality programs, but a fuel transportation and storage program that equally serves its citizens in the same quality manner. ■

Why Fuel Harmonization Makes Sense..... 6

Premise: Near-term individual state bans of MTBE will result in the proliferation of "boutique fuels," increases in gasoline prices, and backsliding in air quality protection. Nonetheless, ongoing Senate energy negotiations have indicated that current state MTBE bans should remain in place in conjunction with an overlapping 4-year federal ban.

Compromise: The federal MTBE ban should be accelerated to 3 years from date of enactment, instead of current 4 years. In return, to prevent a shortage in near-term gasoline supply, increases in gasoline prices, near-term air quality backsliding, and allow the smooth introduction of EPA's Tier II gasoline sulfur rule, all state prohibitions against the use of MTBE shall be deemed enacted consistent with the federal phase-out of MTBE, December 31, 2005.

According to President Bush in his State of the Union Address,

> *"Good jobs also depend on reliable and affordable energy. This Congress must act to encourage conservation, promote technology, build infrastructure, and it must act to increase energy production at home so America is less dependent on foreign oil... On these two key issues, trade and energy, the House of Representatives has acted to create jobs, and I urge the Senate to pass this legislation."*

Why Harmonization Makes Sense: Rationale

Individual state MTBE bans will interfere with the ability of refiners to transport, ship and sell throughout the nation the current low cost gasoline that meets required performance standards and air quality requirements.

2. Harmonizing state initiatives to be consistent with a December 31, 2005 federal MTBE ban, will allow EPA's new Tier II Gasoline Sulfur Rule to be enacted without the creation of unnecessary state "Boutique Fuels"requirements that negatively impact consumer prices.

3. Many states are already looking to either delay current state bans or harmonizing such bans with other states or regions. For example:
   - The California Energy Commission recently reported that the January 1, 2003 California MTBE ban could increase gasoline prices in California by up to 100 percent. The CEC has recommended delaying the California ban for 3 years until December 31, 2005.
   - The Northeast states are seeking to replace individual state MTBE bans with a regional approach. Connecticut supports such a move and also has legislation delaying its state ban until December 31, 2005. Regional harmonization would prevent serious supply shortages, and large price spikes like in the Midwest crisis of 2000, where Chicago and Milwaukee experienced a shortage of the "boutique fuel" gasoline blends. If all states sell the same gasoline, at the same time, a state that runs short has several other supply sources.

4. Harmonization protects the ability of all states to provide adequate gasoline supplies at reasonable prices. According to DOE, MTBE currently makes up more than 4 percent of the total gasoline supply in the US -- and more that 10 percent of gasoline supply in certain states. In the short term, removing more than 4 volume percent will increase gasoline prices by 25 to 30 percent.

5. A December 31, 2005 harmonization allows states additional time to develop options to offset lost air quality protection due to the alteration of gasoline specifications: Without MTBE, many refiners will blend gasoline with more aromatics that emit more harmful air pollutants – thus hindering state's abilities to reduce exceedances and meet air quality guidelines for the reduction of ozone, carbon monoxide and particulate matter emissions.

KERN OIL AND REFINING CO.

COMMENTS BEFORE THE CALIFORNIA ENERGY COMMISSION

TUESDAY, FEBRUARY 19, 2002

INTRODUCTION

MY NAME IS CHAD TUTTLE OF KERN OIL AND REFINING CO. (KERN).

THANK YOU FOR THE OPPORTUNITY TO PRESENT THESE COMMENTS AS RELATE TO THE POSSIBLE IMPACTS OF MTBE PHASE-OUT ON GASOLINE SUPPLIES.

KERN ACKNOWLEDGES THE CONSIDERABLE EFFORT PUT FORTH BY STAFF TO MONITOR THE SWITCH TO MTBE-FREE GASOLINE WITH THE ULTIMATE GOAL OF A SMOOTH TRANSITION.

KERN SUPPORTS STAFF FINDINGS

KERN SUPPORTS THE STAFF'S (AND CONTRACTOR'S) FINDINGS THAT THERE MAY (AND MOST LIKELY WILL) BE SUPPLY SHORTFALLS OF GASOLINE AND GASOLINE BLENDING COMPONENTS IF THE PHASE OUT OF MTBE WERE TO PROCEED AS SCHEDULED BY THE END OF THIS YEAR (2002). WE ARE PLEASED GOVERNOR DAVIS RECOGNIZES THE IMPORTANCE OF CLOSELY MONITORING THE SWITCH AND IS NOW CONSIDERING TAKING APPROPRIATE ACTION TO INSURE A SMOOTH TRANSITION. THIS APPROACH IS CONSISTENT WITH GOVERNOR DAVIS' COMMENTS TO CALIFORNIA REFINERS ON MARCH 26, 1999 FOLLOWING HIS

DECISION TO PHASE-OUT MTBE. SPECIFICALLY, HE STATED THAT THE PHASE-OUT DATE "IS NOT LOCKED IN CONCRETE" WHILE CHALLENGING REFINERS TO WORK TOWARD THE EARLIEST POSSIBLE PHASE-OUT OF MTBE. AS RELATES TO THE PENDING DECISION, IT IS NOTEWORTHY THAT MANY REFINERS PREFACED THEIR SUPPORT OF THE CURRENT PHASE-OUT DEADLINE ON THE SUCCESS OF A CALIFORNIA OXYGENATE WAIVER. KERN HAS REMAINED NEUTRAL ON THE WAIVER. IN THE BROADER CONTEXT, MUCH OF THE UNCERTAINTY OF GASOLINE SUPPLY, MAY RELATE TO THE UNCERTAINTY OF THE OXYGENATE WAIVER.

2

TIMING

PRIOR EXPERIENCES IN CALIFORNIA CERTAINLY INDICATE CAUSE FOR CONCERN. CALIFORNIA EXPERIENCED MARKET INSTABILITY DURING THE INTRODUCTION OF REFORMULATED DIESEL, REFORMUALTED GASOLINE, AND MOST RECENTLY ELECTRICITY DEREGULATION. IN EACH OF THESE CASES, WE THOUGHT WE WERE WELL PREPARED AND STILL EXPERIENCED DISRUPTIONS. TODAY, WE KNOW WE ARE NOT WELL PREPARED WHICH AT BEST WILL LEAD TO DISRUPTIONS

THE TIMING OF GOVERNOR DAVIS' DECISION IS THE SINGLEMOST IMPORTANT ISSUE FOR KERN. A DECISION IS NEEDED TODAY. KERN IS DEVOTING SUBSTANTIAL RESOURCES TOWARD MULTIPLE BUSINESS (3) PLANS WITH VARYING PHASE-OUT DEADLINES. THE PROCESS OF HAVING TO CREATE THESE SEVERAL UNIQUE BUSINESS PLANS IS COSTLY AND INEFFICIENT. THIS ATMOSPHERE OF UNCERTAINTY IS FURTHER COMPLICATING AND DISTRACTING FOR KERN, A SMALL BUSINESS REFINER WITH LIMITED RESOURCES. **KERN SUPPORTS AT LEAST A 10-MONTH EXTENSION OF THE MTBE PHASE-OUT DEADLINE.** WE BELIEVE 4 AN EXTENSION IS WARRANTED BASED ON THE FOLLOWING POINTS.

ADDITIONAL TIME IS NEEDED TO CONCLUDE THE ADMINISTRATIVE, LEGAL, AND LEGISLATIVE PROCEEEDINGS RELATED TO CALIFORNIA'S OXYGENATE WAIVER REQUEST.

PERMITTING DELAYS HAVE OCCURRED, PARTICULARLY IN THE BAY AREA, AND ADDITIONAL TIME MAY BE NEEDED TO SECURE PERMITS FOR REFINERY RE-TOOLING. WE UNDERSTAND THERE HAS BEEN SOME RECENT PROGRESS TOWARD SECURING PERMITS.

ETHANOL SUPPLY CHAIN INFRASTRUCTURE IS NOT YET IN PLACE AND IN PARTICULAR, THAT RELATED TO NEEDED RAILCAR INVENTORY EXPANSION. [DAI REPORT, 1/15/02, 260 CARS TODAY VERSUS 2,600]

- **KERN'S EXTENSIVE EXPERIENCE WITH RAIL SUPPLY IS NOT GOOD**. WE OFTEN EXPERIENCE SUPPLY DISRUPTIONS AS RELATES TO OUR BLEND COMPONENT DELIVERIES (IMPORTS) FROM OTHER PADDS. KERN MUST FREQUENTLY "THREAD THE NEEDLE" TO INSURE DELIVERIES OF BLENDSTOCKS. THIS IS ESPECIALLY NOTEWORTHY BASED ON KERN'S LIMITED PROCESSING CONFIGURATION AND DEPENDANCE ON IMPORTED BLENDSTOCKS. WE CAN SPEAK FROM EXPERIENCE. WE OFTEN REFER TO THE RAILROAD SYSTEM AS A "BRUTE FORCE" MEANS OF RECEIVING AND RELYING UPON GASOLINE BLENDSTOCK SUPPLY. ADDITIONAL TIME WOULD ALLOW COMMERCIAL NEGOTIATIONS WITH ETHANOL SUPPLY INTERESTS TO STABILIZE

SUPPLY, AS WELL AS EVEN THE INDENTIFICATION OF IMPORTED NON-ETHANOL GASOLINE BLENDSTOCKS, CONTINUES TO BE UNCERTAIN WITH OTHER STATES FOLLOWING CALIFORNIA.

SOME BACKGROUND ON KERN

KERN IS A SMALL INDEPENDENT REFINERY LOCATED IN BAKERSFIELD, CALIFORNIA, EMPLOYS JUST OVER 100 PEOPLE, AND HAS SUPPLIED MOTOR FUELS FOR OVER 65 YEARS. WE HAVE SUPPORTED THE USE OF MTBE, ITS GASOLINE MANUFACTURING, AND AIR QUALITY BENEFITS. **AFTER COMMITTING MILLIONS OF DOLLARS TO UPGRADE, KERN IS THE ONLY SMALL INDEPENDENT REFINER PRODUCING CALIFORNIA REFORMULATED GASOLINE AND IS PROBABLY NEGATIVELY IMPACTED BY THE PHASE-OUT OF MTBE MORE THAN ANY REFINER IN THE STATE.** IT IS IMPORTATN TO NOTE THAT KERN MARKETS ITS GASOLINE AND DIESEL TO BOTH THE INDEPENDENT AND BRANDED MARKETS IN THE SAN JOAQUIN VALLEY, HIGH DESERT, AND CENTRAL COAST. **THE COMPETITIVE MARKET IMPACTS ARE CLEAR; KERN PLAYS A SUBSTANTIAL ROLE AND PARTICULARLY IN THE CENTRAL VALLEY.**

CLOSING

AGAIN, KERN SUPPORTS THE OVERALL STAFF EVALUATION THAT THERE MAY (AND MOST LIKELY WILL) BE SUPPLY SHORTFALLS OF GASOLINE AND GASOLINE BLENDING COMPONENTS IF THE PHASE-OUT OF MTBE WERE TO PROCEED AS SCHEDULED BY THE END OF THIS YEAR (2002).

- KERN IS A VESTED STAKEHOLDER.
- KERN WOULD LIKE TO AGAIN EMPHASIZE THE IMPORTANCE OF A DECISION NOW. WE ARE "AT THE POINT OF NO RETURN" WITH REGARD TO CERTAIN IRREVERSIBLE DECISIONS AND COMMITMENTS TO INSURE REFINERY COMPLAINCE WITH THE CURRENT DEADLINE. SHOULD WE NOW TERM UP ETHANOL SUPPLY? SHOULD WE NOW SERVE NOTICE OF CANCELLATION WITH REGARD TO MTBE CONTRACTS? SHOULD WE EXTEND OUR MTBE CONTRACTS? SHOULD WE NOW CONTRACT FOR RAILROAD TRANSPORTATION? THESE QUESTIONS AND CONSIDERATIONS GO ON AND ON AND ON. **BOTH WE AND OUR SUPPLIERS NEED TO KNOW WHAT TO DO NOW.**

- KERN BELIEVES AT LEAST A 10-MONTH EXTENSION IS APPROPRIATE. ALL THE LINKS OF THE SUPPLY CHAIN MUST BE IN PLACE. THAT IS, ETHANOL PRODUCTION, TRANSPORTATION INFRASTRUCTURE, REFINERY RE-TOOLING, AND TERMINAL MODIFICATIONS.
- THE SUCCESS OF THE PHASE-OUT WILL DEPEND ON THE WEAKEST LINK AND IF THE ETHANOL TRANSPORTATION (INFRASTRUCTURE) CONCERNS ARE CONFIRMED, THE GOVERNOR NEEDS TO STEP IN…SOON.
- CALIFORNIA'S ECONOMY IS DEPENDENT UPON THE ELEMENT OF COMPETITION THAT KERN PROVIDES. **KEEP INDEPENDENT GASOLINE AND DIESEL IN CALIFORNIA.**

THAT CONCLUDES MY REMARKS.

Pat Perez - Comments from Lyondell Chemical Co.

From: "Giacobbe, Glenn B." <Glenn.Giacobbe@Lyondell.com>
To: "'pperez@energy.state.ca.us'" <pperez@energy.state.ca.us>
Date: 3/1/02 2:11 PM
Subject: Comments from Lyondell Chemical Co.

Dear Mr. Perez,

Enclosed are Lyondell Chemical Co.'s comments on the Possible Impacts of the MTBE Phase-out in California. We commend the CEC for undertaking this important study to fully comprehend the impacts of an MTBE ban. We appreciate the opportunity to submit our comments in the attached Word document.

In our comments we referenced a number of studies as the basis for our comments. If you would like a copy of these sources please do not hesitate to ask.

Yours truly,
Glenn B. Giacobbe
Lyondell Chemical Co.
Houston, TX 77345
713-309-2064
glenn.giacobbe@lyondell.com <mailto:glenn.giacobbe@lyondell.com>

<<CEC Stillwater Comments Lyondell.doc>>

Comments from Lyondell Chemical Company to the California Energy Commission on the Possible Impacts of MTBE Phase Out on Gasoline Supplies.

Lyondell is pleased to offer the following comments to the California Energy Commission on the Stillwater Associates recommendation to delay the MTBE ban in California.

- **Lyondell supports the recommendation to delay the MTBE ban for three years or more.**

Lyondell agrees with the conclusions by Stillwater Associates that if a MTBE ban were to take place at the end of this year (2002) serious supply disruptions would result. The impact on the California economy would be as severe as the power shortages during the winter of 2000/2001 and would likely be sustained for a period of several years.

Stillwater's analysis clearly shows that gasoline which meets the states unique specifications are limited in production. Outside of California refiners, other U.S. and world refiners cannot make significant quantities of the material. MTBE is a critical component required to meet CARB gasoline specifications. Volumes of up to 11% are necessary to meet many of the Phase II specifications such as aromatics and olefin caps, low distillation temperatures, and the 2% oxygen standard, while maintaining adequate supplies. MTBE also figures predominately into the octane balance. No other component is capable of simultaneously maintaining emissions reductions and supplying volumes commensurate with demand at reasonable prices.

Lyondell believes that the ban should not only be delayed until the end of 2005 but indefinitely. Many of the original motivations for the ban have not materialized such as the threat to groundwater supplies.

Water Contamination problems have not materialized as predicted.

In 1999 when the Executive Order was issued there was a widely held belief that the occurrence and severity of the MTBE water contamination problem would continue to worsen. Now, three years later, the contamination problem has turned out to be negligible in comparison. The following facts are draw from information and data from the Department of Health Services, the SWRCB, and the U.S. EPA.

- **The detection rate in California drinking water supplies has declined steadily from about 3% of all sources in 1995 to 1% in 2000. The concentrations of MTBE in those supplies (detections only) have gone from almost 60 ppb to about 10 ppb during the same period of time.** [1]
- **Drinking water exposures to MTBE are unlikely to pose a significant health risk for the general population or even highly exposed individuals in California such as service station or refinery workers.** [2]

Of the 1200 wells that have been closed in California with exceedances above the Maximum Contaminant Level, only 6 were due to MTBE. [3]

- **Over 80% of the UST remediation efforts throughout the US are dictated by the presence of benzene, not MTBE. Where MTBE is the leading contaminate, the cost of remediation is only 20% higher. The additional cost to fix all UST's in the U.S. due to MTBE contamination is estimated at $250 million, not the billions of dollars estimated by other sources.** [4]

We believe these facts provide a compelling reason for why a ban of MTBE may not be necessary at all.

The supply reduction predicted by Stillwater and Associates is a direct effect of ethanol's properties and has little to do with the presence of the oxygen standard.

If the oxygen standard were removed from CARB RFG III specifications, the supply reductions predicted by Stillwater would not go away. Under a scenario where MTBE is banned and the oxygen waiver granted, the use of ethanol would likely go down but the amount of pentanes that are backed out would remain unchanged. This is due to a unique property of ethanol where most of the increased vapor pressure comes with the first barrels added. So in order to get relief from the pentanes almost all of the ethanol must be removed. In this case the volume balance is still short 5-6%. According to Stillwater, the amount of pentanes removed from California gasoline is about one for one for every barrel of ethanol added.

Increasing the amount of ethanol above the 5.7 vol.% required by the oxygen standard (equivalent to 2.0 wt.%) would cause an increase in NOx emissions.

MTBE is unlike ethanol in this regard and similar to the rest of the crude oil based components of gasoline. Under a scenario where the oxygen standard is waived and MTBE is not banned, MTBE would continue to be used in sufficient quantities to prevent a supply shortfall. The additional cost in this case would be significantly less than that required to reduce consumption.

This argument is not intended to dispute claims in the Stillwater report but instead is in direct response to reactions by the press and Governor Davis in the days immediately following the CEC workshop. [5]

Merchant MTBE producers on the Gulf Coast are unlikely to convert to isooctane or alkylate because of anticipated unfavorable economics. [6]

The price of isooctane or alkylate would have to rise to levels substantially above current values in order to cover the cost of production and investment. According to a PACE analysis from May 2001, alkylate on the Gulf Coast has historically traded at a premium of about 5-10 cents per gallon (CPG) above unleaded regular, a level sufficient to cover the cost of non-merchant, refinery based production. The premium required to cover the

cost of a typical merchant facility using butane dehydrogenation technology would have to be on the order of 20-30 CPG. The report concluded that the prospect for these types of values to be sustained long enough to justify conversion by a typical merchant MTBE producer is grim.

Lyondell employs an MTBE technology based on the production of Propylene Oxide (PO) and Tertiary Butyl Alcohol (TBA). PO is the primary product with TBA as the co-product. TBA is dehydrated to isobutylene, one of the two primary ingredients of MTBE. Because of the link to PO, Lyondell is likely to continue the production of TBA under an MTBE ban. At this time, however, no definitive plans have been made as to the ultimate disposition of the TBA. The only definitive statement that can be made at this time is that Lyondell will be unable to meet the December 2002 deadline for the supply of anything but MTBE.

---

[1] Williams, Pamela R. D. MTBE in California Drinking Water: An Analysis of Patterns and Trends. Environmental Forensics, 2001, 2, 75-85.

[2] Williams, Pamela R. D., Paul K. Scott, Patrick J. Sheehan, and Dennis Paustenbach. A Probabilistic Assessment of Household Exposures to MTBE from Drinking Water. Human and Ecological Risk Assessment, Vol. 6, No. 5, pp. 827-849.

[3] Giannopolous, James, CA SWRCB, PowerPoint Presentation. An Overview of Groundwater Quality Throughout the State. 2002

[4] Wilson, Barbara H. Hai Shen and Dan Pope. Cost of MTBE Remediation. Dynamac Corporation, Report prepared for the U.S. EPA and presented by the EPA at the Batelle Conference in San Diego, CA, June 2001.

[5] California Gas Prices Could Double if Sate Proceeds With Ethanol Plan, The Wall Street Journal On-Line February 20, 2002. California Should Postpone MTBE Ban Until Late 2005, Dow Jones Energy Services, February 19, 2002. USA: California should defer MTBE ban until 2005, Reuters English News Service. Davis Shifts on MTBE to Avert Crisis, Los Angeles Time, February 23, 2002.

[6] PACE Consultants Inc. Economic Analysis of U.S. MTBE Production Under an MTBE Ban, draft report. Prepared for the U.S. EPA, May 2001.

Pat Perez - Comments on CEC California MTBE Phase Out Report

From: "Morgan, Mary F." <mary_morgan@kindermorgan.com>
To: "'gschremp@energy.state.ca.us'" <gschremp@energy.state.ca.us>
Date: 2/27/02 9:31 AM
Subject: Comments on CEC California MTBE Phase Out Report
CC: "Holland, James" <HollandJ@kindermorgan.com>, "Kehlet, Jim" <KehletJ@kindermorgan.com>

Gordon,

I have prepared comments on behalf of Kinder Morgan on the DRAFT MTBE Phase Out in California Report dated 2/18/02. (see below). I hope you will be able to incorporate these comments in the final report. Please call me at 713-369-9448 if you have any comments or need additional information.

Also, I don't believe we have recieved the draft report on the Pipeline Study yet. I expect to have more comments on that report related to our East Line Expansion. I did not go into any more detail in my comments below on the MTBE Phase Out because I think the other report is probably the appropriate place for my my detailed comments.

Thanks

EXECUTIVE SUMMARY - Bottom of Page 3

In Southern California: the extension of the Longhorn pipeline to Phoenix, AZ, which will enable additional supplies of gasoline to be transported to the East, thus allowing 70 to 90 TBD to remain in the CA market that is currently exported to Phoenix from Southern California refineries.

Should be changed to read as follows:

In Southern California: the expansion of the Kinder Morgan East Line pipeline from El Paso, Texas to Tucson and Phoenix, Arizona, which will enable additional supplies of gasoline to be transported to the East, thus allowing 50 to 60 TBD to remain in the CA market that is currently exported to Phoenix and Tucson from Southern California refineries.

Section 4.6 Longhorn Pipeline - Bottom of Page 38

Once product from the Longhorn pipeline reaches El Paso, it is anticipated that Kinder Morgan East Line will be looped to permit additional product movement all the way to Tucson and Phoenix.

Should be changed to read as follows

Once product from the Longhorn pipeline reaches El Paso, it is anticipated that the Kinder Morgan East Line will be expanded to permit additional product movement all the way to Tucson and Phoenix.

Pat Perez - Possible Impacts of MTBE Phaseout on Gasoline Supplies

From: "Bob Wright" <BWright@methanex.com>
To: <Pperez@energy.state.ca.us>
Date: 2/26/02 4:33 PM
Subject: Possible Impacts of MTBE Phaseout on Gasoline Supplies

Formal Comments by Methanex, Inc
on Possible Impacts of MTBE Phaseout on Gasoline Supplies

Methanex, Inc. appreciates the initiative taken by the Califonia Energy Commission staff to explore the ramifications of a scheduled MTBE phaseout now set for 12/31/2002. The Stillwater report provides a sobering assessment of difficulties that appear to require resolution ahead of a scheduled MTBE phaseout. Given the reports findings, their recommendation of an MTBE ban delay to late 2005 is understandable. We assume that all parties are united that if a ban is still deemed warranted that the conditions must exist to reasonably anticipate a transparent change to consumers which would thereby be protective to the California economy. To maintain the current course of a ban by the end of 2002 whose timing was created when predictions of dire consequences surrounded the debate would appear to by no means value the potential economic impacts and concerns expressed in the contractor report. So, while we certainly do not know how the Governor will consider and weigh this report and more importantly the California Energy Commission staff report due by March 8th based in part on the Stillwater report and presumably considering the CEC staffs broad understanding of the issues involved, we remain hopeful that the unbiased staff talent input will be seriously considered.

Since the California Energy Commission is doing it's traditional dilligent work and has revisited earlier beliefs considered critical to an assessment by policy makers, as stated in the Gordon Schrempp opening remarks at the Workshop, an approach which we both support and appreciate, we ask that consideration be given to reopen and reevaluate the fundamental positions, speculations and beliefs at the time brought forward by the University of California report which lead to the Governor's Executive Order. We believe that since there is evidence now where once there was only speculation as to what the future would hold, that the facts should replace the no longer valid earlier predictions.

The Methanol Institute contracted Malcolm Pirnie to create an assessment and report which is titled, "Water Quality Impacts of MTBE: An Update Since the Release of the UC Report" which shows stark, fortunately positive, differences between what has happened and what was projected to happen using California Department of Health Services current MTBE detect data. This update report is attached and we would request that it be included in the record and considered either directly and/or as an example that justifies reopening the question which might simply be asked--do we have a problem of such proportion that a ban is still considered the fair and proper conclusion?

While it may be that reasonable people can disagree reasonably once all the facts are laid out, providing that base knowledge is the meritorious initiative that has been rekindled appropriately by staffs appreciation that at least some earlier beliefs were incorrect and that relying on those incorrect beliefs would damage the quality of the reevaluation which the Governor is pondering, we ask that a focus be granted to the broader question of whether MTBE has risen to the level that it was believed it would. There is a great deal of new, enlightening information which seems to support that as others have grappled with various MTBE related issues with the benefit of more current information than existed when the Governor had to make a decision that other reasonable people and governmental entities have essentially found that the issues raised are manageable. Whether that would be the conclusion for California of a reevaluation is unclear but we feel that it would be appropriate to make such a comprehensive update since there appears a reasonable chance that the death sentence given MTBE in California seems excessively harsh and potentially counterproductive to the environment and the economy of the state.

We appreciate the opportunity to make these comments. We appreciate the work of the CEC staff and their consultant, Stillwater Associates. Thank you for your consideration and thank you for your ongoing efforts to bring forward full and complete quality information on energy issues that enable policy based on facts as they are understood.

Sincerely,

Bob Wright
Director, Government and Industry Relations
Methanex, Inc.
12947 Woodstock Dr.
Nevada City, Ca. 95959
tel 530-265-4823

MALCOLM PIRNIE

Water Quality Impacts of MTBE: An Update Since the Release of the UC Report

Executive Summary

Occurrence of MTBE in Drinking Water in California. The UC report suggested that MTBE would contaminate a significant number of surface and ground water resources in California projected through the year 2010. Since 1998, several mitigation measures and a large amount of monitoring data indicate that future MTBE contamination of groundwater and surface waters in California is likely to be much less severe than predicted by the UC researchers. Recent monitoring data released by the California Department of Health Services (CalDHS) shows that MTBE detections in both surface water sources and public water supply wells have steadily decreased since 1998.

Declining Detections of MTBE in Groundwater from Public Water Supply Wells. At the time of publication of the UC report (1998), the number of MTBE detections in drinking water sources, both groundwater and surface water, was increasing fairly rapidly. Based on information available at the time, the UC report suggested that between 60 and 340 public drinking water wells would become contaminated by MTBE in the future, in addition to the 35 wells that had already been impacted for a total of about 100 to 400 public water supply (PWS) wells. In 1998, CalDHS monitored 2,988 public water supply wells for MTBE, representing 21% of the total public drinking water wells. Of these wells, 1.2% (35) contained detectable levels (greater than 1 to 5 ppb) of MTBE. The UC report therefore concluded that 1.2% of the entire population of untested wells could become contaminated in the future, using this as an upper bound estimate for future impacts of MTBE. in the absence of a ban on the use of the chemical. However, since 1998, and as more wells were tested. the percentage of newly contaminated wells decreased. For example. 7,981 sources were sampled in June 2001 and MTBE was only detected in 0.6 % of the wells tested. The percentage of new wells contaminated with MTBE between March 2000 and the present (June 2001) is 0.15 %. This number is approximately one order of magnitude lower than that used by UC researchers (1.2%). Using this new number, and assuming a total of 10,931 unsampled active public water supply wells in California, only 16 new wells are projected to be impacted compared to the UC estimate of 60 to 340 wells.

In addition, the UC report suggested that MTBE plumes will generally grow in length three to four-fold by 2010 compared to plume sizes in 1998 and could extend up to 7000 feet from the release points to impact a volume of groundwater over 100,000 acre-ft. This analysis also assumed that these plumes would not be actively remediated by responsible parties and that MTBE does not naturally biodegrade. Since 1998. MTBE has been shown to biodegrade under a

range of environmental conditions, both in laboratory samples and in the field. Several studies of MTBE plumes from other states suggest that many plumes are stabilizing and are not likely to expand indefinitely. In addition, for those MTBE plumes posing significant threats to groundwater supplies, active remediation is being initiated by responsible parties. Thus, the total volume of groundwater predicted by the UC Report substantially overestimates the probable future impacts.

Declining Detections of MTBE in Surface Water. The UC report suggested that surface water resources used as motorized recreational areas and drinking water sources would require treatment for removal of MTBE. Since 1998, the continued phase-out of two-stroke engines on many of California's drinking water reservoirs has greatly reduced the risk of MTBE contamination. In addition, since the publication of the UC report, several peer-reviewed studies were published which illustrated that MTBE will not persist in surface waters but will volatilize within a relatively short period (< 40 days). Finally, since 1998 only 5 new surface water sources have been identified as containing elevated concentrations of MTBE. In addition, since 1999, none of the monitored surface water sources had an MTBE concentration greater than 5 µg/L (CalDHS). 3

Cost Impacts. In an attempt to quantify the total costs to California's economy resulting from the continued use of MTBE in gasoline, UC researchers prepared a cost/benefit analysis of fuel alternatives. Much of the analysis performed was based on assumptions regarding the movement of MTBE in surface waters and in the subsurface, and the subsequent contamination of drinking water supplies. The key assumptions were as follows: **1)** no remediation of existing plumes, **2)** no biodegradation or adsorption of MTBE, **3)** current detection trends for public water supply systems should be extrapolated to 2010, and **4)** contamination of surface water sources would continue due boating use.

As discussed in this report, more recent data show that none of these assumptions is correct. Existing known plumes posing threats to water supplies are or will be remediated. Bioattenuation of MTBE plumes appears to be occurring at varying rates at multiple sites suggesting that many plumes are not likely to expand significantly from their current size. The frequency of detection of MTBE in public water supply wells is decreasing with time, and the frequency of detection in new wells recently sampled has decreased substantially compared to results reported prior to the UC study. Finally, the ban on 2-stroke engines has essentially eliminated the threat of MTBE to surface sources of water supply. 4

While this review did not attempt to reassess the UC cost analyses, it clearly reveals that a number of the costs reported by the UC report will be far less than predicted. For example, there will be no annual costs for loss of recreational use of surface water sources (estimated to be between $160 and $200 million). Monitoring costs should also be decreasing rapidly as the MTBE threat to surface water fades. Finally, drinking water costs will be less than predicted by the UC report because of fewer impacts to public water supply wells. No assessment of the incremental costs for remediation of underground tanks has been made in this analysis. However, new technologies, particularly in-situ biodegradation are likely to result in significant decreases in overall remediation costs for MTBE impacted sites.

Introduction

In March 1999, the University of California released a comprehensive evaluation of the health and environmental effects of the use of MTBE and other oxygenates in California entitled "Health and Environmental Assessment of MTBE: Report to the Governor and Legislature of the State of California as Sponsored by SB 521." The Report concluded that "on balance, there is significant risk to the environment from using MTBE in gasoline in California." In particular, the Report predicted that there was a significant threat to water quality in the State and that a large number of public water supply systems and private drinking water wells would be contaminated by the continued use of MTBE in gasoline. The findings of the report prompted the Governor to issue Executive Order D-5-99, which requires the complete removal of MTBE from gasoline sold in California by December 31, 2002.

Since the publication of the UC Report, several new studies and additional groundwater and surface water monitoring data in California, as well as other states in the U.S. have significantly improved the knowledge base on the behavior of MTBE in the aquatic environment. In addition, conventional and emerging soil and groundwater remediation technologies have been assessed for their effectiveness at remediating MTBE-impacted sites, and several of these technologies have been successfully applied at the field-scale level to remove MTBE from soil and groundwater.

Based on this new information obtained since the release of the UC Report, it is now possible to assess whether the assumptions made by the UC team are accurate or whether these assumptions, and subsequent conclusions regarding the future impacts of MTBE on water quality should be modified. This memorandum focuses on the following issues:

1. The implications of monitoring data since 1998 regarding MTBE in surface and groundwaters in California, and the likely overall future impacts on public water supply systems in California;
2. The implications of more recent findings regarding the fate of MTBE plumes in groundwater on the likelihood of future impacts to public water supply systems;
3. Remediation of MTBE-impacted soil and groundwater, and treatment technologies for the removal of MTBE from water.

The overall objective of this evaluation is to determine whether the assumptions made in the UC Report are still valid given the advances made in MTBE research and new monitoring data, and whether appropriate changes to those assumptions lead to different conclusions regarding the magnitude of the MTBE threat to public and private water supplies in California.

Overview of Statewide Drinking Water Detections

The UC report concluded that the contamination of public and private drinking water supplies with MTBE in California was widespread and growing. However, at the time of the UC study, the available monitoring data on public water supply systems collected from 1995 to 1998 by the California Department of Health Services (CalDHS) indicated that only about 2% of all sampled drinking water sources had detectable levels (approximately 1 to 5 ppb) of MTBE. Most importantly, more recent monitoring data clearly show that the frequency of detections for MTBE has decreased as more public water supply systems have been sampled. Thus, predictions of future impacts based on extrapolation of monitoring data taken between 1995 and 1998 overestimate the likely impacts of MTBE on California public water supply systems, as is discussed subsequently in this memorandum.

In the UC report, researchers relied on drinking water monitoring data provided by CalDHS up to August of 1998. Although the UC report recognized that the percentage of drinking water sources with detectable levels of MTBE was low (about 1.2%), UC researchers predicted that there would be a significant increase in the number of drinking water sources impacted by MTBE in future years (assuming that the percentage of detections would remain the same indefinitely).

For the purposes of the analysis performed in the UC study, California's water supply was divided into surface water and groundwater sources. The UC report indicated that both sources are highly susceptible to widespread and long-term contamination by MTBE. This was a key assumption that formed the basis for overall conclusions regarding the future threats of MTBE to water supply systems. The more recent data strongly indicate that this assumption significantly overstates the future impacts of MTBE on public drinking water systems as will be discussed in detail in the next several sections.

Surface Water Sources

UC Report Conclusions. To quantify the adverse effects related to the use of MTBE-blended fuel in surface water recreational vehicles, UC researchers defined three distinct cost impacts related to surface waters. First, UC researchers stated that every surface water source used as both a motorized recreational area and a drinking water source would require treatment for the removal of MTBE. Second, the UC report suggested that as a result of this extensive MTBE contamination, recreational boating would be banned on all drinking water reservoirs thereby incurring significant costs associated with the loss of these recreational areas. Finally UC researchers predicted that water utilities would incur large incremental monitoring costs due to the usage of MTBE in gasoline.

Current Observations. Recent events and recent monitoring data do not support the worst-case assumptions made by the UC team. First, many water utilities have either banned or severely restricted the use of two-stroke engines on many of California's drinking water reservoirs. The criticism of the use of these highly polluting engines began well before 1995. Two-stroke engines are known to emit as much as 30% of their fuel directly into the water as unburned fuel (Bluewater Network). Consequently, recreational crafts with two-stroke engines were banned in at least nine high-profile public surface waters in California since 1998. These include Anderson and Calero Reservoirs, all waterways in Marin, Coyote Lake, Donner Lake, Lake Tahoe, Modesto Reservoir, and San Pablo Reservoir. Most of the other large reservoirs in California had either previously banned two-stroke engines or never allowed it.

The UC report also expressed some uncertainty regarding the persistence of MTBE once dissolved in surface water. Since the publication of the UC report, several peer-reviewed studies have been published which demonstrate that MTBE will not persist in surface waters but will volatilize relatively quickly, depending on a number of factors related to the physical features of the reservoir and the wind conditions. Once MTBE sources are eliminated, these studies suggest that MTBE would not persist indefinitely and would likely be completely dissipated within several months following cessation of the use of two-stroke engines (Stocking et al., 2000 and references therein).

The findings on the fate of MTBE in reservoirs have been confirmed by recent data on surface water sources. The surface water monitoring data available at the time of publication of the UC report can be compared with current data made available since 1998. As Table 1 illustrates, only five new surface water sources have been identified since 1998 as containing elevated concentrations of MTBE, and no surface waters have been monitored with concentrations greater than 5 µg/L (the California SMCL) since 1999.

Table 1. Surface Water Reservoir Contamination

	1996	1997	1998	1999	2000	2001
Newly Identified SW sources with MTBE detects	9	4	7	4	1	0
Newly Identified SW sources with MTBE detects > 5 µg/L	2	3	2	3	0	0

Surface Water Cost Impacts. In an attempt to quantify the total costs to California's economy resulting from the continued use of MTBE in gasoline, UC researchers prepared a cost/benefit analysis of fuel alternatives. The analysis included direct and indirect costs including air quality benefits, health costs, fuel price increases, water monitoring costs, and other costs. Following this analysis, UC researchers suggested that the continued use of MTBE will result in increased incremental costs (aggregated annualized costs) specifically related to surface water, a recreational cost ($160 to $200 million) and a water treatment cost ($4 - $30 million). While it is beyond the scope of this memorandum to reassess the cost analysis performed by the UC researchers, a review of the predicted costs due to surface water contamination in California suggests that these costs are significantly overestimated, and are likely to be negligible over time. Without MTBE impacts (due to the ban of two-stroke engines at drinking water reservoirs in California), no treatment will be needed and monitoring requirements and costs will decrease with time.

Groundwater Sources

UC Report Conclusions. The UC report divides groundwater contamination into two categories: public and private drinking water wells. At the time of publication of the UC report, it appeared that MTBE detections in drinking water sources were increasing fairly rapidly. Both Santa Monica and South Lake Tahoe had recently been identified as highly impacted drinking water utilities in previous years. These high profile contamination scenarios set the stage for the assumption that many of the state's public drinking water resources would become contaminated by MTBE in the near future. Based on the information available at the time, UC researchers projected that between 60 and 340 public drinking water wells would become contaminated by MTBE, and that an additional 1000 to 5000 private drinking water wells would also become contaminated.

The predictions of the UC researchers were based on CalDHS public drinking water well monitoring data. At the time of publication, CalDHS had monitored approximately 2,988 public drinking water wells for MTBE contamination representing 21% of total public drinking water wells in California. Of these wells, 35 (or 1.2%) contained detectable levels of MTBE. While UC researchers noted that much of the DHS testing "has presumable targeted wells near suspected sources, hence it probably represents a biased sample," they went on to extrapolate that 1.2% of the entire community of untested wells could become contaminated in the future.

Current Observations. With several additional years of drinking water monitoring data, it is possible to review the accuracy of the UC predictions. Table 2 presents past and current public drinking water well MTBE contamination data in California. As suggested by the UC researchers, it appears that the most vulnerable or already contaminated sources were monitored first thus accounting for the initially high percentage of MTBE contaminated sources and the steady decline in this percentage as more sources are sampled. Thus, if the data were extrapolated based on current monitoring results, the UC authors would likely select a range much closer to their lower bound of contamination and likely below their lower bound.

Table 2. Declining Percent of MTBE Detections in Public Water Supply (PWS) Wells Between 1995 and the Present

Date	1995 – 9/1998	9/1998 – 3/1999	3/1999 – 6/2001
Number of new PWS wells sampled	2,988	1,567	3,426
Total number of PWS sampled to date	2,988	4,555	7,981
Number of PWS wells with MTBE detects	35	41	46
% of total wells with MTBE detects	1.2 %	0.9 %	0.6 %
Number of new wells with MTBE detects	-	6	5
% of new wells with MTBE detects	-	0.4 %	0.15 %

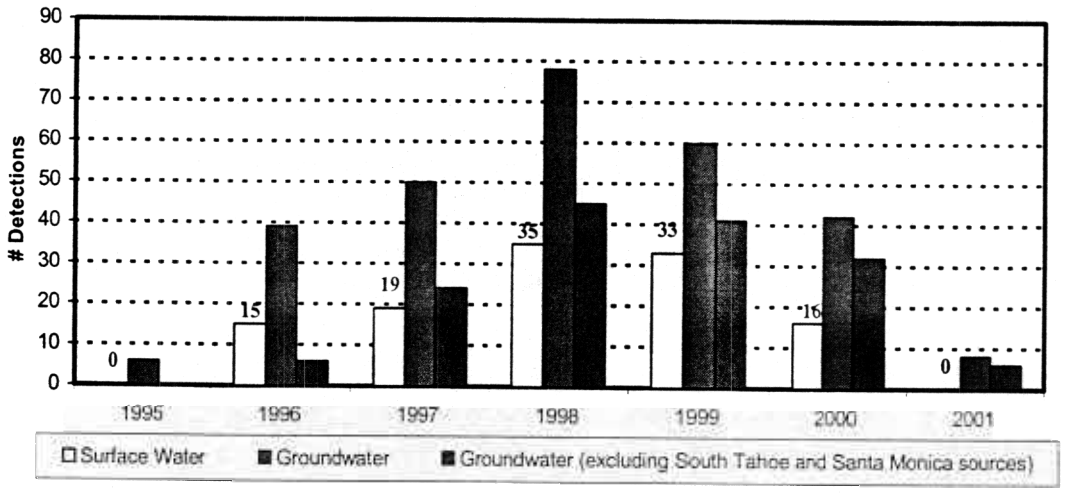
As shown in Table 2, the incremental increase in the number of new wells contaminated with MTBE between March 2000 and the present (June 2001) is 0.15%. This number is one order of

magnitude lower than that used by UC researchers (1.2%). It is very probable that the percentage of new wells with MTBE detections will continue to decrease over time. Using the current incremental increase in new wells with MTBE detections (0.15 % between March 1999 and June 2001, and assuming a total of 10,931 unsampled active public water supply wells in California, the estimated number of new wells projected to be impacted by MTBE should be 16 compared to the UC estimate of 60 to 340 wells.

Gaining an accurate picture of private well contamination is much more complicated. Due to the large number of private wells in California and the lack of monitoring and regulatory oversight, no data are readily available on private well contamination except on a hearsay basis or if reported to the state or county in an effort to recover treatment costs. In preparation for this memorandum, a review of five counties in the Bay Area– a region noted for its use of MTBE-blended fuel – was completed. Three counties reported no known private well contaminated by MTBE. The other two counties reported that a few private wells were contaminated with MTBE. However, due to the lack of any compiled information or formal database, the total number of private wells contaminated by MTBE remains unknown in California.

Combining all of the data currently available from CalDHS, one can clearly see a trend in MTBE detections across the state since 1998. As Figure 1 illustrates, 1998 represented the apex in MTBE detections statewide. Since then, both surface water and groundwater detections have decreased steadily. This most likely resulted from testing the most vulnerable or already contaminated sources first, and using those sources as an indication of future contamination.

Figure 1. MTBE Detections at Public Water Supply Sources of Drinking Water



Notes. Maximum of 1 Detection per month
Detection requires at least two positive findings at a source

Groundwater Cost Impacts. In the UC report, a cost/benefit analysis of fuel alternatives revealed that utilities in California will incur substantial costs due to potential water treatment for the removal of MTBE. A considerable portion of this cost is associated with the treatment of groundwater relative to surface water. Cost assumptions were based on a predicted number of sites requiring treatment, in addition to a large volume of groundwater requiring treatment at each site due to the continued expansion of MTBE plumes. As shown in this memorandum, the number of impacted sites is not as large as predicted by the UC report. In addition, MTBE plumes (as will be discussed below) are not expected to expand as predicted by the UC report. Finally, advances in technologies for the removal of MTBE from water suggest that treatment costs are not as prohibitive at MTBE-impacted sites relative to BTEX-only sites when the rapid detection of MTBE takes place.

Growth of MTBE Plumes

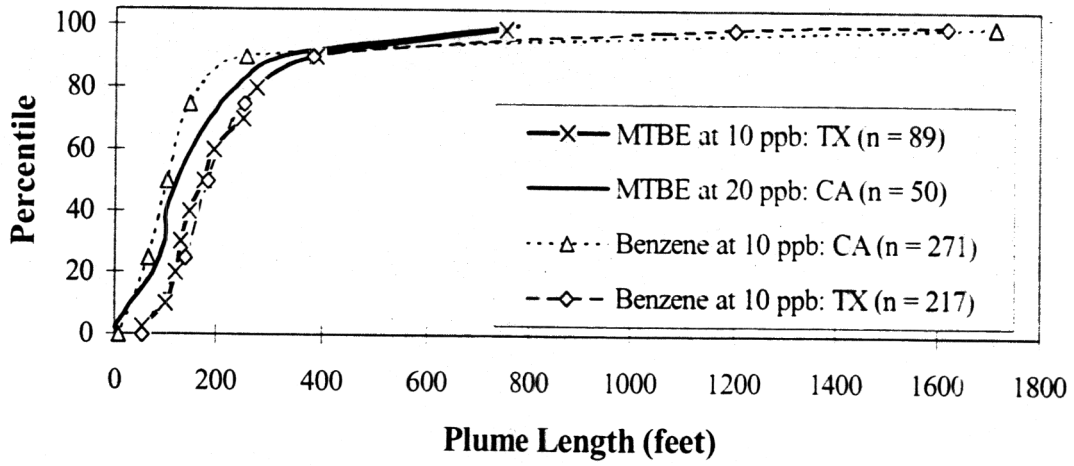
UC Report Conclusions. One of the foundations for concluding that MTBE poses a significant risk to California's environment comes from assumptions made by UC researchers regarding the movement of MTBE through the subsurface following the release of MTBE-blended gasoline from leaking underground fuel tanks (LUFTs). By assuming no biodegradation and no adsorption, UC researchers concluded that MTBE plumes will grow three to four-fold and could extend up to 7000 feet from a release site to impact a volume of groundwater of over 100,000 acre-ft by 2010.

Current Observations. Three years after publication of the UC report, the current picture of MTBE plume behavior in the field has not changed significantly. Several MTBE plumes remain long (Port Hueneme, Vandenberg Air Force Base). However, most MTBE plumes do not appear to elongate at the rate predicted by the UC report. Recently, plume studies were conducted in three states (California, Florida, and Texas) to determine the apparent distribution of BTEX and MTBE in groundwater. Figure 2 represents a compilation of data from several hundred benzene plumes and approximately 130 MTBE plumes. The results of these studies contrast directly with predictions made by UC researchers based solely on MTBE's physical and chemical properties. Based on its properties, MTBE was predicted to move at the speed of groundwater with little or no retardation. However, most of the studies reviewed to date suggest that MTBE plumes neither elongate indefinitely as predicted, nor do they span substantially longer distances than BTEX plumes (Figure 2). These studies suggest that, depending on gasoline spill history and on site geology and hydrogeology, MTBE plumes may often stabilize at a fixed distance from a point of release.

That being said, the data presented in Figure 2 are still mostly from sites with relatively recent spills. It is therefore possible that MTBE plumes at these sites did not have sufficient time to elongate significantly beyond the BTEX constituents. Figure 2 indicates that the relative volume of groundwater requiring remediation at LUST sites following the addition of MTBE to gasoline does not dramatically change immediately after a spill. Therefore, if active remediation is rapidly implemented following an accidental release of MTBE-blended gasoline, the incremental groundwater impacts associated with the presence of MTBE can be minimized.

Finally, a heightened awareness of the importance of identifying and curtailing any releases of MTBE into surface water and groundwater would suggest that accidental gasoline releases impacting drinking water resources in California will be detected earlier and stopped sooner. This more rapid control of MTBE plumes will reduce the overall impact of MTBE releases to groundwater.

Figure 2. MTBE and benzene plume studies (Texas and California)



Sources. Buscheck et al., 1998; Deeb et al., 2001; Happel et al., 1998; Mace and Choi, 1998

Bioattenuation Potential of MTBE in Subsurface Environments

UC Report Conclusions. One of the major conclusions of the UC report was based on the assumption that MTBE does not biodegrade naturally. Prior to 1998, only a few cultures were reported to biodegrade MTBE (Hardison et al., 1997; Mo et al., 1997; Salanitro et al., 1994; Steffan et al., 1997). Moreover, MTBE biodegradation in the field had not been observed at more than a handful of sites. As a result, several studies during that timeframe suggested that the bioattenuation of MTBE did not occur at significant enough rates to prevent MTBE plume elongation.

Current Observations. In contrast to the scientific understanding in 1998, several studies have recently shown that MTBE can biodegrade under a range of environmental conditions, both in laboratory samples and in the field. In addition to a significant increase in publications reporting the biodegradation of MTBE and its byproducts under anaerobic conditions (Deeb et al., 2001 and references therein), MTBE has been recently shown to biodegrade under methanogenic (Hurt et al., 1999; Wilson et al., 1999), nitrate-reducing (Landmeyer et al., 2001) and iron-reducing conditions (Finneran et al., 2001). In addition, the biodegradation of MTBE has been demonstrated in sediment samples under denitrifying conditions (Bradley et al., 2001).

These recent results suggest that MTBE has the potential to naturally biodegrade under a range of environmental conditions. Thus, the assumption made in the UC report regarding the lack of biodegradation of MTBE in groundwater is no longer valid. While the exact consequences of these findings have not yet been quantified, the assumption that all MTBE plumes will grow indefinitely is clearly incorrect. Ongoing research efforts in the near future are likely to provide a quantitative basis for analyzing the future fate of existing MTBE plumes.

Remediation of MTBE-Impacted Soil and Groundwater, and Treatment Technologies for the Removal of MTBE from Water

UC Report Conclusions. In the "Summary" section of the UC Report, it was stated that the properties of MTBE present challenges for conventional water treatment processes while emerging technologies such as bioremediation have not yet been proven effective. The Report concluded that incremental costs for soil, groundwater and drinking water treatment would be very high due in part to the technical challenges of remediating MTBE impacted sites.

Current Observations. The UC review of the effectiveness of a range of MTBE remediation and treatment technologies was very thorough, but actual field experience with MTBE remediation was discussed only briefly since such information was not readily available at that time. Since the publication of the Report, many of these technologies have been tested at the field-scale for MTBE removal. The knowledge gained from these case studies demonstrates that many MTBE sites can be effectively remediated at a cost less than projected using conventional technologies.

A current evaluation of MTBE remediation technologies reveals that conventional technologies are effective at MTBE-impacted sites and that they are being widely applied on a national basis. Demonstrated remediation technologies include air sparging, pump-and-treat, multi-phase extraction and soil vapor extraction, all of which have been widely applied at gasoline-contaminated sites prior to the widespread use of MTBE in gasoline. Case studies demonstrate that conventional technologies can be very effective at removing MTBE from soil and groundwater relative to BTEX removal from environmental media (CA MTBE Research Partnership, 2001). The successful removal of NAPL sources is not impacted by the presence of MTBE.

In addition to conventional technologies used at gasoline-contaminated sites, emerging technologies or modifications to existing technologies can greatly reduce the life cycle remediation costs at MTBE-impacted sites. For example, while the use of in-situ technologies such as bioremediation was emerging in 1998, recent successful field applications (Salanitro et al., 2000; Mackay et al., 2000) suggest that bioremediation and other emerging technologies have great potential for success at MTBE-impacted sites. Such a technology is now commercially available, and on-going research studies are promising with respect to the efficiency and relative cost effectiveness of bioremediation.

In summary, unit costs for remediation of MTBE impacted sites, and unit costs for MTBE removal from groundwater are likely to decrease in the future as a consequence of research efforts since the UC Report, and research studies now under way funded by federal, state and private entities are likely to reduce unit costs.

References

Bradley, P., Chapelle, F., and Landmeyer, J. 2001. Methyl t-Butyl Ether Mineralization in Surface-Water Sediment Microcosms under Denitrifying Conditions. Appl. Environ. Microbiol. 67(4): 1975-1978.

2. Buscheck, T., Gallagher, D., Kuehne, D. and Zuspan, C. 1998. *In* Proceedings of the National Ground Water Association - Southwest Focused Ground Water Conference: Discussing the Issue of MTBE and Perchlorate in Ground Water, Anaheim, California.

3. California MTBE Research Partnership. 2001. Evaluation of MTBE Remediation Options. National Water Research Institute, Fountain Valley, CA.

4. California MTBE Research Partnership. 2000. Treatment Technologies for Removal of MTBE from Drinking Water: Air Stripping, Advanced Oxidation Processes, Granular Activated Carbon, Synthetic Resin Sorbents. National Water Research Institute, Fountain Valley, CA.

Deeb, R. A., Stocking, A., Alvarez-Cohen, L. and Kavanaugh, M. 2001. Biodegradation of MTBE and TBA: A Current Review, Chapter 16. *In* Diaz, A. and Drogos, D. (Eds.), Exploring the Environmental Issues of Mobile, Recalcitrant Compounds in Gasoline, American Chemical Society Books and Oxford University Press. In press.

6. Finneran, K. and Lovley, D. 2001. Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA). Environ. Sci. and Technol. 35(9): 1785-1790.

7. Happel, A., Beckenbach, E. and Halden, R. 1998. Publication URCL-AR-1308907. Lawrence Livermore National Laboratory, Livermore, California.

8. Hardison, L. K., Curry, S. S., Ciuffetti, L. M. and Hyman, M. R. 1997. Metabolism of Diethyl Ether and Cometabolism of Methyl tert-Butyl Ether by a Filamentous Fungus, a Graphium sp. Appl. Environ. Microbiol. 63(8): 3059-3067.

9. Hurt, K., Wilson, J., Beck, F. and Cho, J. 1999. *In* Natural Attenuation of Chlorinated Solvents, Petroleum Hydrocarbons, and Other Organic Compounds, Alleman, B. and Leeson, A. (Eds.). Battelle Press, Columbus, OH, Vol. 1, pp 103-108.

10. Integrated Science and Technology. 1999. Report, Marietta, GA.

Landmeyer, J., Chapelle, F., Herlong, H. and Bradley, P. 2001. Methyl tert-Butyl Ether Biodegradation by Indigenous Aquifer Microorganisms under Natural and Artificial Oxic Conditions. Environ. Sci. Technol. 35(6): 1118-1126.

12. Mace, R. and Choi, W. 1998. *In* Proceedings of the Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention, Detection, and Remediation, National Ground Water Association, Westerville, OH.

3. Mackay, D. M., Einarson, M. D., Wilson, R. D., Fowler, B., Scow, K., Hyman, M., Naas, C., Schirmer, M., and Durrant, G. D. 1999. Field Studies of In-Situ Remediation of an MTBE Plume at Site 60, Vandenberg Air Force Base, California. *In* Proceedings of the 2000 Petroleum Hydrocarbons and Organic Chemicals in Ground Water: Prevention. Detection, and Remediation.

14. Mo, K., Lora, C. O., Wanken, A. E., Javanmardian, M., Yang, X., and Kulpa, C. F. 1997. Biodegradation of Methyl t-Butyl Ether by Pure Bacterial Cultures. Appl. Microbiol. Biotechnol. 47: 69-72.

15. Salanitro, J. P., Diaz, L. A., Williams, M. P., and Wisniewski, H. L. 1994. Isolation of a Bacterial Culture that Degrades Methyl t-Butyl Ether. Appl. Environ. Microbiol. 60(7): 2593-2596.

16. Salanitro, J., Johnson, P., Spinnler, G., Maner, P., Wisniewski, H., and Bruce, C. 2000. Field-Scale Demonstration of Enhanced MTBE Bioremediation through Aquifer Bioaugmentation and Oxygenation. Environ. Sci. Technol. 34(19): 4152-4162.

7. Steffan, R. J., McClay, K., Vainberg, S., Condee, C. W., and Zhang, D. 1997. Biodegradation of the Gasoline Oxygenates Methyl tert-Butyl Ether, Ethyl tert-Buty Ether, and tert-Amyl Methyl Ether by Propane-Oxidizing Bacteria. Appl. Environ. Microbiol. 63(11): 4216-4222.

18. Wilson, J. and Cho, J. 1999. In Case Studies in the Remediation of Chlorinated and Recalcitrant Compounds; Wickramanayake, G., Gavaskar, A., Gibbs, J., Means, J., Eds., Battelle Press: Columbus, OH; Vol. 7, pp 1-16.

Pat Perez - COMMENTS ON POSSIBLE IMPACTS OF MTBE PHASE OUT ON GASOLINE SUPPLIES

From: <Bridgette.Trichter@Fortum.com>
To: <pperez@energy.state.ca.us>
Date: 2/28/02 8:00 AM
Subject: COMMENTS ON POSSIBLE IMPACTS OF MTBE PHASE OUT ON GASOLINE SUPPLIES

> <<CEC,Certainty.doc>> <<CEC,Cover.doc>> <<CEC,De Minimis.doc
> <<CEC,T50 Needs.doc>>
>
Dear Pat,

In order to meet the March 1, 2002 comment deadline, I have attached a cover letter and 3 comment documents on the above subject. I will send confirming documents via US mail.

Best regards,

> Jouko Helin
> Vice President, Neste Oil Holding, Inc
> 1800 West Loop South, Suite 1700
> Houston, Texas 77027
> 713-407-4400
> 713-407-4480 FAX
> 713-252-3941 CELL
> mailto:jouko.helin@fortum.com
>

NESTE

NESTE OIL HOLDING (U.S.A.), INC.
Comments on the Report:
"Impact of MTBE Phase Out"
By Stillwater Associates
Presented at the February 19, 2002
CEC Fuels and Transportation Commission Workshop

Certainty Enhances Supply

First we would like to compliment the Commission and their consultant Stillwater Associates. The conclusion that California may be facing a significant supply shortage is consistent with our market analysis. The assumption that the only merchant MTBE plant that can be ready to supply California with Isooctane is the Canadian MTBE plant (Neste Canada as a joint venture partner) is consistent with our plans and market intelligence. 1

This Canadian MTBE plant was built to supply the MTBE California needs to improve and maintain its air quality. After Governor Davis banned MTBE effective December 31, 2002, we began designing, engineering, permitting and fabrication of the modifications necessary to convert the MTBE plant to produce isooctane. The possibility that California might delay the ban creates a dilemma for us. Do we complete the conversion or do we put the project on hold?

If Governor Davis promptly announces that the MTBE ban will not be delayed, we will, just like we were in the past with MTBE, be there for California with isooctane to help minimize the potential supply shortfall.

If Governor Davis promptly a delays the MTBE ban, we might be able to delay construction and continue to produce the MTBE California needs to avert the supply shortfall described in the Stillwater Associates report. If California eventually decides to ban MTBE, we can because of the work we have done, be ready to produce isooctane after the next summer construction season 2

If Governor Davis does not promptly announce that the MTBE ban is delayed, we will comply with current law and complete the conversion. If California then delays the MTBE ban we will not be able to supply the MTBE California needs and will have a product for which the market is not ready. If MTBE is allowed in California gasoline, both the dilution and octane value of isooctane as a gasoline blendstock decreases. This could create a negative manufacturing margin which could cause California to lose both the MTBE product because the plant was converted and the isooctane product because the plant was shut down due to negative margin.

Indecision has the greatest potential to damage California's gasoline supply. 3

NESTE

California Energy Commission
Attn: Pat Perez
1516 Ninth Street, MS 23
Sacramento, Ca 95814

Re: Possible Impacts of MTBE Phase Out on Gasoline Supplies

NESTE Oil Holding (U.S.A.), Inc. appreciates the opportunity to comment on the above issue. We are commenting because NESTE Canada is a joint venture partner in the Canadian MTBE plant that Stillwater Associates assumed would convert to make isooctane. In general we agree with the conclusions reached by Stillwater Associates. We are however submitting three comments that we believe will enhance the supply situation for California. We have provided three standalone attachments containing more detailed comments so that it will be easier for you to sort and incorporate them in CEC's report. Here are synopses of our comments:

1 Certainty is the key to long term supply security. Uncertainty could result in California being deprived of both the current MTBE production from the Canadian plant and the potential isooctane production. We need a decision now so that we can either proceed with converting the plant to make isooctane or delay the construction so we can continue to supply MTBE to California.
2 The isooctane product contains some C8 ethers that need to be accommodated in CARB's de minimis oxygenate definition. 4
3 Increasing the T50 cap in CaRFG3 will make it easier to use the isooctane and C8 Alkylate products and enhance California's gasoline supply. 5

NESTE trusts you will find these comments helpful as you improve California's access to gasoline and gasoline components from outside of the state.

NESTE OIL HOLDING (U.S.A.), INC.

Jouko Helin
Jouko Helin
Vice President

NESTE

NESTE OIL HOLDING (U.S.A.), INC.
Comments on the Report:
"Impact of MTBE Phase Out"
By Stillwater Associates
Presented at the February 19, 2002
CEC Fuels and Transportation Commission Workshop

De Minimis Oxygenate Definition Could Increase Supply Shortfall

First we would like to compliment the Commission and their consultant Stillwater Associates. The conclusion that California may be facing a significant supply shortage is consistent with our market analysis. The assumption that the only merchant MTBE plant that can be ready to supply California with Isooctane is the Canadian MTBE plant (Neste Canada as a joint venture partner) is consistent with our plans and market intelligence.

This Canadian MTBE plant was built to supply the MTBE California needs to improve and maintain its air quality. After Governor Davis banned MTBE effective December 31, 2002, we began designing, engineering, permitting and fabrication of the modifications necessary to convert the MTBE plant to produce isooctane. Assuming the ban stays in place, the de minimis oxygenate definition that the California Air Resources Board (CARB) staff is working on may be a barrier to supply. If that definition is not done correctly, increase your projected supply shortage by the volume of isooctane Stillwater Associates assumed they would get from Canada.

CARB has a mandate to develop a workable MTBE de minimis definition in order to satisfy water interests in California. The MTBE to isooctane plant conversion is designed so that MTBE content will not be a problem. However, the process does produce isooctene that contains some ethers containing 8 carbon atoms (C_8 ethers). The hydrogenation of the isooctene to isooctane reduces but does not eliminate these C_8 ethers because hydrogenation conditions severe enough to eliminate the C_8 ethers would destroy the isooctane. The very low solubility of these C_8 ethers in water both prevents the use of a water wash to remove them from the product and mitigates any water contamination risk. We have provided additional technical information to CARB on this subject. However, we encourage CEC and/or the governor to encourage CARB to develop a definition that does not exclude Canadian isooctane from California's gasoline supply.

NESTE

NESTE OIL HOLDING (U.S.A.), INC.
Comments on the Report:
"Impact of MTBE Phase Out"
By Stillwater Associates
Presented at the February 19, 2002
CEC Fuels and Transportation Commission Workshop

Raising T50 Cap Could Enhance Supply

First we would like to compliment the Commission and their consultant Stillwater Associates. The conclusion that California may be facing a significant supply shortage is consistent with our market analysis. The assumption that the only merchant MTBE plant that can be ready to supply California with Isooctane is the Canadian MTBE plant (Neste Canada as a joint venture partner) is consistent with our plans and market intelligence. We agree with the conclusion that alkylate made from propylene and isobutane (C_7 Alkylate) will be in short supply and not available as a segregated gasoline blending component.

This Canadian MTBE plant was built to supply the MTBE California needs to improve and maintain its air quality. After Governor Davis banned MTBE effective December 31, 2002, we began designing, engineering, permitting and fabrication of the modifications necessary to convert the MTBE plant to produce isooctane.

When California begins to rely upon imports of cleaner burning gasoline components like isooctane and alkylate made from butylene and isobutane (C_8 Alkylate) the current cap on midpoint distillation temperature (T50) may be a barrier to supply. Unlike the T50 of C7 Alkylate the T50's of these components are above the California specification. Increasing the T50 cap could make it easier for refiners to use these components and thereby increase California gasoline supply.

The process for making isooctane in a converted MTBE plant produces a product containing a little over 90 percent by volume of isooctane that boils at 211 degrees Fahrenheit. The majority of the remaining product is isoparaffins containing 12 carbon atoms (C_{12} Isoparaffins). A typical isooctane T50 would be about 220 degrees Fahrenheit. C_8 Alkylate contains a wider mix of isoparaffins and has a typical T50 of about 225 degrees Fahrenheit. Adding either of these components to California Phase 3 reformulated gasoline (CaRFG3) results in gasoline blends that are cleaner than they have to be. Therefore, increasing the T50 cap to accommodate their use has the potential to increase supply while helping California air quality.

Because T50 has significant influence on the emissions calculated by the CARB Phase 3 Predictive Model (PM3); the actual increase in T50 will be limited. However, the additional degree of freedom has the potential to increase supply. When CEC modeled the impact of the CaRFG3 specifications, their simulation found that gasoline cost less when the T50 increased. Lower costs in such simulations imply increased supply. Therefore, because PM3 will limit the actual T50 increase while protecting air quality and the additional degree of freedom will enhance supply, we encourage CEC and/or the governor to encourage CARB to increase the T50 cap. This will make it is easier for refiners to use more cleanly burning components like isooctane and C8 Alkylate.

Pat Perez - Comment Submission: Possible Impacts of MTBE Phase Out on Gasoline Supplies

---

From: "Tammy Klein" <tklein@chemweek.com>
To: <pperez@energy.state.ca.us>
Date: 3/1/02 10:24 AM
Subject: Comment Submission: Possible Impacts of MTBE Phase Out on Gasoline Supplies
CC: "'Nick Economides'" <neconomides@chemweek.com>

Dear Pat,

Attached are comments submitted on behalf of Nick Economides, Managing Director, Technical Services of Hart Downstream Energy Services in response to the "Possible Impacts of MTBE Phase Out on Gasoline Supplies." I will be following up this transmission with a hardcopy for your records as well.

If you have any questions, please contact me. Best regards,

Tammy W. Klein
Director, Global Environmental Policy
Government Relations Group
Hart/IRI Fuels Information Services
1201 Seven Locks Road, Suite 300
Potomac, MD 20854
USA
+1 (301) 354-2023
(f) +1 (301) 738-8138
tklein@chemweek.com

<<...>>

Possible Impacts of MTBE Phase Out on Gasoline Supplies

Comments Presented to

California Energy Commission
Attention: Pat Perez
1516 Ninth Street, MS 23
Sacramento, CA 95814
pperez@energy.state.ca.us

Nick Economides
Managing Director, Technical Services
Hart/IRI Fuels Information Services
1201 Seven Locks Road, Suite 300
Potomac, MD 20854
neconomides@chemweek.com
(301) 354-2022

Hart's Downstream Energy Group appreciates the opportunity to submit comments to the California Energy Commission on the recently completed study by Stillwater Associates entitled, "Impact of MTBE Phaseout," and to some of the comments made regarding this study at the workshop held by the Commission on February 19, 2002. Our organization serves the refining industry through standard-setting publications such as Octane Week, Diesel Fuel News and World Refining Magazine and conferences held annually around the globe. We also offer consulting services to the industry through our International Fuel Quality Center, which currently comprises more than 60 member organizations, including many of the leading refiners, automakers and technology suppliers around the world. We have been closely monitoring California developments on this issue and feel uniquely qualified to offer our perspective on two key issues in this debate:

- The availability of clean burning blendstocks to replace MTBE in California's gasoline supply.

- The potential for maximizing ethanol blending in California gasoline to fill the projected shortfall.

We note that the bulk of the economic analyses performed in 1998-99 (leading up to the California MTBE ban decision) were performed under the following assumptions:

- California would be the only state to ban MTBE.
- Clean stocks available for import would be plentiful and reasonably priced.
- Ethanol production would be expanded and infrastructure upgrades would be in place to guarantee California's supply.
  Refiners would have sufficient lead time to make necessary modifications to replace a portion of in-state gasoline production capacity.

We agree with CEC's assessment that several of these conditions do not appear to be "holding up:"

- California is clearly not the only state moving forward with action to reduce and/or eliminate the use of MTBE. Similar action is well underway in the Northeast.

  We support the finding of Stillwater Associates that there are no significant volumes of clean blendstocks that can be made available to California from the rest of the U.S. or from abroad in the short term. Segregation of propylene alkylate is not expected to be practiced in the U.S. Gulf refining sector, and the volume of propylene directed to alkylation will never be large, as the economics clearly favor the diversion of this material to the chemical feedstock sector rather than fuels blending.

- The lead time California provided the refining industry has not been utilized as envisioned. Refiners have generally been inclined not to make major investments to replace in-state gasoline production volume. "Lead time" should not be interpreted to mean time to install ethanol blending facilities at terminals and implement small

fractionation changes at the refinery to produce on-spec CARBOB. It is meaningless to present long lead time as the means to reduce the price impact if the industry is not going to use the extra time to at least ensure that in-state gasoline production capacity is protected.

- An evaluation of the ethanol supply outlook is largely outside the scope of the Stillwater study that simply indicates that, even if ethanol issues are satisfactorily resolved, California will be facing a 5 to 10 volume percent gasoline supply shortfall.

AVAILABILITY OF CLEAN BURNING BLENDSTOCKS FOR IMPORT INTO CALIFORNIA

The largest potential source of clean blendstocks into California would be the conversion of current MTBE producers into some combination of alkylate and/or isooctane production. There are no market indications that MTBE producers (domestic or international) are undertaking conversion of their world-scale MTBE plant to alkylate and/or isooctane (except Fortum/Chevron joint venture in British Columbia).

- The timing of any such conversion would be governed by commercial, i.e., financial conditions for these producers. It will require market demand for the product (alkylate or isooctane) adequate to provide contractual commitments at a price and volume at ratable flows to justify the ventures. The current economics do not provide income adequate to provide the cash costs to produce isooctane EVEN IF the processing facilities were in place and operable.

- The time required to evaluate, engineer, approve, permit, detail engineer, purchase materials and construct facilities to produce alternative blendstock components. The combined time required for this "cycle" could easily exceed 36 months.

  The alternative product market will have to justify the construction or conversion of facilities to produce it before the resources are committed. The current market does not justify the conversion of operating facilities to produce blending components to replace MTBE.

The notion of a government edict affecting a company's opportunity to produce a viable, valuable product arguably without proper cost/benefit analysis is inherently troubling as it is. Irrespective of that, it is entirely unreasonable to expect the same company to expend large sums of money and human resources to produce a product that has no defined market and shows costs greater than income. We believe that:

It is likely that conversion of merchant MTBE units will not take place before the issue is settled at the national level, IF it takes place at all. Certainly redirection of current MTBE production to international markets is a significant possibility.

By extension, If California can not expect incremental clean blendstock production supplies from current domestic MTBE merchant producers, our attention should turn to the current level of clean blendstock supplies and the extent to which they could be made available to

California. Generally, the existing supply of desirable clean blending components has been committed to the markets in which they currently serve. Thus, any new components to be made available for California must be produced in existing spare capacity and from existing surplus feedstock. These are serious obstacles to overcome to assure adequate, timely supply for California.

Furthermore, the availability of such existing "clean blendstocks" for import into California is greatly complicated by the stricter environmental requirements for cleaner Federal Phase II RFG, anticipated impact of the recently promulgated EPA Mobile Source Air Toxics (MSAT) rule, and other state MTBE phaseout action (New York, Connecticut, etc.). Gasoline specifications in the rest of the country like MSAT should not be discounted – it is simply not as easy to make clean burning gasoline for those markets without MTBE and the same components that California needs will be highly coveted. The assumption that California can simply "bid away" barrels from those markets should be carefully reexamined.

As far as the national legislation is concerned, we should note that there is considerable activity in the Senate that is introducing additional uncertainty and could lead to major realignments in the national fuel supply and distribution outlook. From our perspective, it certainly remains to be seen how alternative clean blendstock components can compete against ethanol (a mandated, heavily subsidized component) in a world of ever-tighter gasoline product specifications. One thing is clear: there appears to exist no federal legislative scenario that would carve out California-only action. Similarly, no regulatory relief on the MTBE issue is forthcoming and, in our opinion, none should be expected. In our view, this has always been an issue that Congress needs to settle and that has not changed. We believe that it would be very advantageous for California to see what national picture will emerge and determine California's best interests in that scenario of supply and demand.

MAXIMIZING ETHANOL BLENDING IN CALIFORNIA PHASE II RFG

In addition to the comments above on the availability of clean blendstocks for import into California, we would like to briefly touch upon the issue of potentially blending additional volumes of ethanol in CARB Phase 3 gasoline in order to help alleviate the overall gasoline volume shortage outlined in the Stillwater Study. This was advocated as a possible solution by some commenters during the February 19 workshop. It was suggested that such a course of action may have some merit and that the Energy Commission should work with the Air Resources Board to examine ways to make it more attractive for refiners to blend additional volumes of ethanol in California gasoline. The Stillwater report assumed 5.7 volume percent would be blended in all California gasoline arriving at a total ethanol import volume of 55 thousand barrels per day (MBBL) for the state. Furthermore, Stillwater did not delve into the uncertainty of ethanol supply or the status of California's ethanol infrastructure improvements. Instead, Stillwater simply assumed that ethanol would be made available to California refiners in the above volume, as needed and on a timely basis.

The idea that an additional 4 volume percent of ethanol (up to 10 volume percent) could be blended in CaRFG3 to "close" the projected 5-10 volume percent gasoline supply shortfall projected by Stillwater, might appear to have some merit upon first examination. We note. for

example, that the adverse vapor pressure effect of adding ethanol to gasoline occurs with the initial increment of ethanol added and there would be no further volatile organic compound emission (VOC) increases associated with the incremental ethanol volume. Refiners would not have to reduce the vapor pressure of their base gasoline blendstock (CARBOB) further in order to accommodate the incremental ethanol volume. Furthermore, the additional volume of ethanol might provide some additional diluent for other, less desirable, blendstock components that could not otherwise be incorporated in California's gasoline pool. Lastly, the incremental ethanol volume would help relieve the significant octane shortage that refiners are expected to experience following the removal of MTBE from the pool.

While these reasons would seem to argue for CEC and CARB to pursue increasing the amount of ethanol blended in CaRFG3, we believe that relying on maximizing ethanol blending as the means to fill California's gasoline supply shortfall is both impractical and ill advised for the following reasons:

- According to the Stillwater report, 55 MBBL of ethanol per day would be needed to supply California. This is a daunting volume when we consider that the entire nation currently utilizes slightly over 100 MBBL/day, with very little demand in California. Increasing the volume percent ethanol in California's pool from 5.7 volume percent to 10 volume percent would raise California's daily requirement from 55MBBL to 96.5 MBBL, an amount nearly equivalent to the volume currently consumed by the remaining 49 states combined. If we factor in the projected increase in ethanol demand from other regions of the country considering phasing out MTBE (i.e., the Northeast), even the aggressive ethanol supply growth figures showing 150 MBBL/day of total supply by year-end 2002 do not seem adequate. Regardless of one's assessment of the progress made by the ethanol industry to gear up for such an increase in demand, it is simply unreasonable to expect that California ethanol supply can be increased sufficiently short-term to materially impact the state's projected gasoline shortage.

  The assumption that actual wet-barrels of ethanol will flow to California in the volumes needed to close the gasoline supply shortfall is even more suspect given the recent federal legislative proposals that would permit credit averaging, banking and trading to fill any national Renewable Fuel Standard (RFS) requirement. Such provisions are intentionally designed to keep ethanol blending to those regions (primarily PADDs II and IV) where expanded use makes the most economic sense. If anything, CEC should be concerned with whether the base volume assumed by Stillwater will be made available to the state should a national RFS be implemented.

  Following the blueprint of the Stillwater report, we would suggest that, even if the requisite volumes of ethanol were available for import into California, the state's infrastructure does not appear to be capable of handling the volume without additional upgrades. Centralized rail car unloading facilities to permit receipts of "unit-trains" into the state have not been constructed, nor is there a network in place to distribute ethanol from such facilities to the terminals where ethanol blending will take place. We would also expect that the same marine terminal shortcomings (unloading and storage facilities)

that Stillwater Associates discusses relative to clean blendstock imports also apply to ethanol marine receipts into the state.

Lastly, encouraging the blending additional volumes of ethanol into CaRFG3 makes little sense from an environmental standpoint. While it is true that there will not be any adverse VOC impact, nitrogen oxide (NOx) emissions are expected to increase exponentially as the amount of ethanol is increased from 5.7 volume percent to 10 volume percent. The Air Resource Board's predictive model accurately depicts the sum total of our current knowledge from various studies on this subject matter. Based on CARB's own 1998 study of ethanol fuels, we would expect roughly a 14% increase in NOx emissions as the level of ethanol blending is increased. We would encourage both CEC and CARB to carefully evaluate the NOx environmental impact before further adjustments to the predictive model are considered. Similarly, we believe that the increase in acetaldehyde emissions that would be expected with maximum ethanol blending should be reviewed in responding to calls for increased ethanol blending in CaRFG3.

In conclusion, we would urge both CARB and CEC to avoid further compromising the state's air quality program in the face of marketplace "pressure." In our view, even the last round of changes (which relaxed T50 and T90 and raised the aromatics cap) represent a relaxation of the environmental performance of CaRFG3 in the name of refining operating or gasoline supply "flexibility." Some commenters insinuated at the February 19th workshop that California should continue along this path, to alter the NOx penalty assigned for higher ethanol blends in the predictive model. We believe that such action would not only be technically unjustifiable, but would also seriously jeopardize achieving the state's ambient air quality goals. It should be recalled that the Governor's direction to facilitate the removal of MTBE from the state's gasoline pool should be accomplished with minimal supply/price impact and without adversely affecting air quality. We believe that these objectives can be best accomplished by providing the additional lead-time suggested by Stillwater Associates and would strongly urge that California align its action on MTBE with whatever direction and timetable is settled upon by the U.S. Congress.

We appreciate the opportunity to comment on this important matter.

COMMENTS
OF
PHILLIPS PETROLEUM COMPANY
ON

STILLWATER ASSOCIATES
DRAFT REPORT
FOR THE
CALIFORNIA ENERGY COMMISSION

"MTBE PHASEOUT IN CALIFORNIA"
February 18, 2002

March 1, 2002

Phillips Petroleum Company ("Phillips") is pleased to submit the following comments on Stillwater Associates' Draft Report for the California Energy Commission, "MTBE Phaseout in California". Phillips and its subsidiaries manufacture, transport, exchange, and sell gasoline and diesel fuel in California through some 1600 Union 76 and Circle K retail sites. Phillips purchased Tosco Corporation in September 2001 including its California assets.

Phillips is prepared to produce California gasoline without MTBE by the December 31, 2002 regulatory deadline. As background, Tosco expressed initial support for eliminating MTBE from California gasoline as early as 1997. Tosco strongly supported Governor Gray Davis' March 1999 Executive Order that called for the elimination of MTBE "at the earliest possible date, but not later than December 31, 2002." Governor Davis said at the time that he would work with oil companies to expedite the elimination of MTBE by voluntary agreement. Tosco, which had already eliminated MTBE from gasoline in three Bay Area Counties in 1998 immediately responded and was the first company to eliminate MTBE in Lake Tahoe gasoline. Tosco then joined Governor Davis in a December 1999 joint press conference to announce Tosco's plan to remove MTBE from gasoline by the end of 2000 contingent on EPA's issuance of an oxygenate waiver for California. Although EPA did not waive the oxygen mandate, Tosco still responded and reduced its MTBE use in California by 80-90% by late 2000 and started purchasing and blending over 6000 barrels per day of ethanol in California gasoline. Tosco took this major voluntary action two years before the regulatory deadline. Phillips has continued this program since its purchase of Tosco last year.

Phillips continues to support the elimination of MTBE from California

the December 31, 2002 regulatory deadline. Phillips has completed all necessary improvements to our refineries and terminals and those facilities are in operation today. Phillips has been successful to date in producing non-MTBE gasoline with ethanol but was and is fully anticipating that other California refiners would join us in making this gasoline no later than fall 2002. However, operating as the sole major producer/marketer of California gasoline with ethanol can be difficult. A California MTBE phaseout delay, particularly one linking the use of ethanol with a gasoline supply crisis, creates a dilemma for Phillips. At a minimum, such a delay would therefore cause Phillips to re-evaluate our ability to continue producing non-MTBE gasoline in California.

Stillwater is suggesting that maintaining the December 31, 2002 MTBE phase out deadline will contribute to an unacceptable gasoline supply situation for California, and that a three-year delay will give industry and government more time to resolve these supply concerns. Phillips does not see this as an acceptable public policy recommendation, delaying one major public policy goal (protection of water resources) to address another goal (gasoline supply). We are prepared to work with California officials and other stakeholders to seek out and evaluate constructive solutions so that Californians can have both gasoline and water free from MTBE and adequate gasoline supply.

REAP

Renewable Energy Action Project

March 1, 2002

The Honorable Gray Davis
State Capitol Building
Sacramento, CA 95814

RE: MTBE Phase Out in California/ Stillwater Associates Study

Dear Governor Davis,

The Renewable Energy Action Project (REAP) urges you to hold firm on the MTBE deadline.

Almost three years have passed since your Executive Order, and all sectors of the transportation fuels industry have invested heavily to comply with your vision. Nearly twelve months before the deadline, most refiners are committed to the phase-out schedule, the ethanol industry has more than doubled output to meet projected California demand, and the transportation and logistics industry has confirmed its ability to ship and distribute ethanol by 2003.

In regard to the Stillwater report, in-depth studies by the California Energy Commission (CEC) do not corroborate Stillwater's concerns about pump price increases as a result of the MTBE deadline. Furthermore, the Stillwater report fails to consider the costs of ongoing MTBE use, which range from cleanup to stranded investments. It does not consider high-risk scenarios inherent with increased dependence on imported oil. In addition, it is difficult to quantify the public health costs of extending the deadline. However, Californians have made themselves clear: they are not willing to bear the burden of ongoing MTBE use.

In addition, we offer the following comments:

1.) Price Spike Concerns Overblown: As the Stillwater report data suggests, immediate price spikes are unlikely to occur because the MTBE phase-out will occur during the winter months. During this period, the true value of ethanol as a strategy to extend gasoline supplies is realized due to greater regulatory flexibility. There is no blending reason for gas prices to increase during this period, and we encourage you to put the oil companies on notice that they will be held accountable. If supply shortages are anticipated as the summer season approaches, existing fuels regulations already allow refiners to apply for variances, as demonstrated in 1999 by the Chevron Corporation. Complementary legislative protections could be enacted to clarify the fuel variance process to apply directly to the MTBE phase-out, or

provide additional consumer protections. In addition, the CaRFG 3 Predictive Model should be corrected to reduce the risk of summertime shortages (see below).

2.) Oxygen Waiver Counter-Productive: Ongoing efforts to exempt California from the oxygen waiver (or RFS) are counter-productive and contribute to the uncertain regulatory environment that is crippling the transition away from MTBE. Though contrary to the rhetoric coming from the oil companies, actual data from the CEC reports by Math Pro and Stillwater demonstrate that non-oxygenated gasoline is more difficult and expensive to produce, and requires more imports of foreign blend stocks. In seeking a waiver, California is endorsing the use of alkylates as a complete replacement for MTBE. According to the CEC, alkylates are in short supply and have reached " extraordinary" price levels during the last twelve months. Although you may believe that both alkylates and ethanol will be used to fill the MTBE void, an oxygen waiver would cripple efforts to ship and supply ethanol to California, even if the oil industry reversed their well-documented tendencies and started blending ethanol voluntarily to keep gasoline prices stable. In essence, an oxygen waiver increases the chances of alkylate-induced supply shortages and decreases the chances that ethanol will be available to bail California out.

3.) Benefits of Increased Ethanol Use: Currently, 10 percent of California's electricity comes from renewable resources. Your administration set a goal to increase California's use of renewable electricity to 17 percent by 2010. With a few quick policy changes you can set the transportation sector on a similar course, while simultaneously catalyzing rural economic development, reducing global warming emissions and decreasing petroleum use. You could very quickly rally California's agricultural, environmental and political communities around this effort. This is an appropriate and feasible goal that would ultimately result in greater liquid fuel supply and lower gasoline prices. We would enjoy an opportunity to assist this effort.

4.) ARB Regulations: On February 29, 2002, the California Energy Commission stated that the CaRFG 3 Predictive Model should be reconsidered as a strategy to increase refiner flexibility. Currently, it is virtually impossible for refiners to blend 10 percent ethanol (E10) because of erroneous assumptions about oxygenated fuels increasing NOx emissions. The model should be updated to reflect recent Automobile Alliance tests, which show reduced NOx emissions in new vehicles using oxygenates. Although refiners will still need to eliminate some " light ends" in order to meet air quality regulations when adding higher quantities of ethanol, a ten percent ethanol blend will result in much greater net fuel volume

gains than 5.7 percent ethanol blends. It is possible that this one regulatory adjustment could make up the 5 percent supply shortage predicted by Stillwater Associates (as opposed to using MTBE for that purpose). Supply could be extended by more than five percent if some refiners use the pentane light ends to make other products such as iso-octane. Correcting the CaRFG3 model would certainly reduce the chances of summertime supply shortages. It would also ensure that our mistakes do not cascade to the other states that traditionally adopt California regulations.

5.) Economic development: Delaying the ban will likely cancel or postpone every prospective ethanol development project in California. It will undercut legislative efforts – specifically Senate Bill 87-XX – to capture the economic benefits of public investment in biomass ethanol production. The CEC report " Costs and Benefits of a Biomass-to-Ethanol Production Industry in California" demonstrates that a relatively small 200 million gallons per year California biomass ethanol industry would result in statewide economic benefits of $1 billion over a 20-year period. Another CEC report estimates that California has enough " wastes and residues" alone to produce up to 3.9 billion gallons of biomass ethanol per year – enough to displace a third of California's transportation sector oil consumption. In addition, private investors and farmers stand ready to invest additional millions of dollars in California biofuels.

It is time for the State of California to truly address its fuel supply issues. Awaiting completion of oil pipelines, permitting ongoing MTBE use, and pursuing policy initiatives that undercut truly sustainable energy development projects is a disservice to California residents even in the near term. It will commit the state to even more perilous dependence on foreign oil, exacerbated MTBE cleanup costs, increased global warming emissions and ongoing gasoline supply issues. REAP fully supports efforts to protect California consumers from pump price spikes, but not at the needless expense of drinking water and sustainable economic development.

We appreciate your efforts to investigate strategies to reduce petroleum use. REAP would like to provide any assistance we can to make that vision a reality.

Sincerely,

RBColeman

Brooke Coleman
Director, Renewable Energy Action Project (REAP)
415.336.2321

Climate Solutions

REAP

Renewable Energy Action Project

Bluewater Network
Environmental & Energy Study Institute
Kinergy Resources
West Coast People's Energy Co-op
Institute for Local Self-Reliance
Institute for Agriculture & Trade Policy
California Renewable Fuels Partnership
Masada Resource Group
The Brower Fund
General Biomass Company
Oregon Environmental Council
California Farmers Union
The Minnesota Project
Plumas Corporation
Oceanic Resource Foundation
County of Ventura Public Works Department
Tides Foundation
Illinois Student Environmental Network (ISEN)
Waterkeeper Alliance
Save Our Shores
International Marine Mammal Project
Clean Energy Now (Greenpeace)
Kettle Range Conservation Group
Cook Inlet Keeper
New River Foundation
Earth Island Journal
Waste Action Project
Pacific Biodiversity Institute
Mangrove Action Project
Citizens Committee to Complete the Refuge
Northwoods Conservation Association

41 Freelon Street, San Francisco, CA 94107

122 C Street, NW Suite 700, Washington, DC 20001

Pat Perez - Possible Impacts of MTBE Phase Out on Gasoline Supplies

From: Tracy Hemmeter <themmeter@valleywater.org>
To: "'pperez@energy.state.ca.us'" <pperez@energy.state.ca.us>
Date: 2/28/02 2:19 PM
Subject: Possible Impacts of MTBE Phase Out on Gasoline Supplies

Attached is an electronic copy of the Santa Clara Valley Water District's comments on the possible impacts of the MTBE phase out on gasoline supplies. The signed hard copy is has been sent through US mail.

<<FL0225k.doc>>

Tracy Hemmeter
Groundwater Management Unit
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
Phone: 408-265-2607, ext. 2647
FAX: 408-978-0156
email: themmeter@valleywater.org

February 26, 2002

California Energy Commission
Attention: Pat Perez
1516 Ninth Street, MS 23
Sacramento, CA 95814

Ladies and Gentlemen:

Subject: Possible Impacts of Methyl tert-Butyl Ether Phase Out on Gasoline Supplies

The Santa Clara Valley Water District (District) appreciates the opportunity to provide comments on the Stillwater Associates' draft report on the "MTBE Phase Out in California" study. The District provides wholesale water supply for the nearly 1.7 million residents of Santa Clara County. Methyl tert-Butyl Ether (MtBE) has been detected in our drinking water supply reservoirs, imported water supplies, and two public water supply wells. In addition, MtBE has been detected in groundwater at more than 400 leaking underground storage tanks (UST) sites in the county, at concentrations as high as several million parts per billion. In response to this widespread groundwater contamination, the District Board of Directors adopted a resolution urging a prohibition on the use of MtBE and other ether-oxygenates in gasoline in February 1998. We continue to be very concerned about the additional water quality impacts that may occur between now and the time MtBE is removed from gasoline. We believe the California Energy Commission should make every effort to support and encourage the early phase out of MtBE from gasoline.

There are thousands of UST facilities in California that dispense gasoline containing MtBE that may be subject to undetected releases and have not been investigated. These are in addition to the known sites with MtBE contamination in groundwater. The District is extremely concerned that MtBE continues to be released at UST facilities. We have completed several studies on the occurrence of MtBE and other petroleum hydrocarbons at sites with new or upgraded UST systems. As part of one study, we collected soil and groundwater samples on or adjacent to 28 sites with new or upgraded underground storage tank systems. MtBE was detected in groundwater at 13 of the 28 sites. In a recent pilot study of groundwater monitoring at an additional 30 operating gasoline stations, MtBE was detected at more than 60 percent of the sites. The State Water Resources Control Board Field Based Research Project on Enhanced Leak Detection recently found evidence of a release at 60 percent of the UST systems that were tested. Many of these releases are believed to be vapor releases, which can be a significant release mechanism for gasoline containing MtBE. The MtBE vapor release pathway was the cause of a release that resulted in 2,000 pounds of MtBE in soil and groundwater at an operating station in San Jose, which has been implicated in a water supply well impact. A complete list of references for the above studies is attached for your use.

There is currently no statewide program to identify and clean up the legacy of MtBE contamination from previously undetected releases at operating UST facilities (possibly 40 to 60 percent) that are not currently in the state's UST cleanup program. The evidence of continuing and ongoing spills and

releases at operating UST facilities is persuasive and should be viewed as a very significant threat to the state's water resources. This threat can only be minimized by the removal of MtBE from gasoline.

The District supports the current MtBE phase out date of December 31, 2002. The State of California needs to protect its natural resources. Each gasoline facility with MtBE is a threat to water resources and drinking water sources due to the significant potential for spills and undetected releases and MtBE=s unique characteristics. The District, along with agencies and organizations across the state, has expended considerable resources to prevent and manage contamination problems associated with MtBE. We understand and appreciate the economic, technical and regulatory issues associated with the MtBE phase out. However, the continuing threat to our water resources and the costs to cleanup MtBE contamination dictate an aggressive phase schedule. We urge you to continue with the immediate and complete removal of MtBE from gasoline in California.

Thank you for the opportunity to provide these comments. If you have any questions or would like more information on the District=s effort to manage the MtBE problem, please call Ms. Tracy Hemmeter at (408) 265-2607, extension 2647.

Sincerely,

ORIGINAL SIGNED BY

Stanley M. Williams
Chief Executive Officer

Attachment: List of References Related to MtBE Occurrence at Operating Gasoline Stations

cc: Ms. Susan Kennedy
Deputy Chief of Staff for Cabinet Affairs
Office of the Governor
State Capitol
Sacramento, CA 95814

W. Wadlow, K. Whitman, S. Fitts, R. Davis, J. Crowley, B. Ahmadi, T. Hemmeter

JC:MF:FL0225k

LIST OF REFERENCES RELATED TO MtBE OCCURRENCE AT OPERATING GASOLINE STATIONS

San Diego Regional Water Quality Control Board. February 2002. Groundwater investigations of MtBE Releases at Operating Gas Stations in the Temecula Valley Area. Presented at the 4th Annual CAL CUPA Conference Including the Annual UST Conference, February 4-8, 2002.
http://www.calcupa.net/conference/2002/presentations/CUPA.pdf

Santa Clara Valley Water District. February 2002. Evaluation of MtBE Occurrence at Operating Gasoline UST Facilities in Santa Clara County—Preliminary Findings. Presented at the 4th Annual CAL CUPA Conference Including the Annual UST Conference, February 4-8, 2002.
http://www.scvwd.dst.ca.us/wtrqual/Lustop/home.htm

State Water Resources Control Board. January 2002. Field-Based Research (FBR) Project, Status Report I (Sacramento and Yolo Counties). Presented at the 4th Annual CAL CUPA Conference Including the Annual UST Conference, February 4-8, 2002.

United States Government Accounting Office. May 2001. ENVIRONMENTAL PROTECTION: Improved Inspections and Enforcement Would Better Ensure the Safety of Underground Storage Tanks.

Thomas M. Young and Jennifer Nakayama-Curry, et al., March 2001. Field Verification of the Performance of Release Detection Methods for Underground Storage Tank Systems.
http://cee.engr.ucdavis.edu/faculty/young/ldstudy/LDfinal.pdf

Santa Clara Valley Water District. May 2000. An Evaluation of MtBE Occurrence at Fuel Leak Sites with Operating Gasoline USTs.
http://www.scvwd.dst.ca.us/wtrqual/factMtBE.htm

The California MtBE Research Partnership. September 1999. Survey of Current UST Management and Operation Practices.
http://www.ocwd.com/NWRI

LFR Levine-Fricke. June 1999. Groundwater Vulnerability Pilot Study, Investigation of MtBE occurrence associated with Operating UST systems, prepared for Santa Clara Valley Water District.
http://www.scvwd.dst.ca.us/wtrqual/factMtBE.htm

Report of the State Water Resources Control Board (SWRCB) Advisory Panel, UST Team 2 Report. January 1999. Leak History of New and Upgraded UST Systems: Upgraded UST release Site Evaluation Case Studies.
http://www.swrcb.ca.gov/cwphome/ust/advisory_panel/advisory_panel.htm

State Water Resources Control Board. January 1998. Are Leak Detection Methods Effective in Finding Leaks in Underground Storage Tank Systems? (Leaking Site Survey Report).
http://www.swrcb.ca.gov/~cwphome/ust/leak_reports/Index.htm

Pat Perez - Response to Stillwater Draft

From: Tony Hoff <bhoff@ShoreTerminals.com>
To: '"pperez@energy.state.ca.us"' <pperez@energy.state.ca.us>
Date: 2/28/02 9:39 PM
Subject: Response to Stillwater Draft

Hello Pat. Attached is a letter responding to the Stillwater Draft Report on MTBE Phase-Out in California from our perspective as an operator of large bulk liquid terminals in California:

<<Pat Perez Letter 02-28-02.doc>>

ST
SERVICES
Shore Terminals LLC
A KANEB COMPANY

February 28, 2002

Mr. Pat R. Perez
Manager
Fuel Supply and Demand Office
California Energy Commission
1516 Ninth Street, MS 23
Sacramento, CA 95814-5504

RE: **Response to Stillwater Draft Report on MTBE Phase-Out in California**

Dear Mr. Perez:

Thank you for the opportunity to comment on concepts set forth in the Stillwater Associates Draft Report on anticipated impacts of MTBE Phase-Out in California ("Draft"). The Draft bases its conclusions in large part upon the inability of California's storage and transportation infrastructure to handle volumes of ethanol and other blend components which will be required to replace MTBE when it is phased out. We believe that California's infrastructure can quickly, and at low cost, handle the required volumes of ethanol and other components.

ST Services owns and operates 50 bulk liquids terminals in the US and UK, and just today closed on the acquisition of a 10.5 million barrel terminal in the Caribbean and a 7 million barrel terminal in Nova Scotia. ST has been unloading ethanol rail cars in California for 15 years, and operates 6.5 million barrels of terminal tankage in the Bay Area. The following are some facts and observations that offset some of the assumptions made in the Draft.

1) Ethanol Storage, Rail Offloading, and Truck Loading. The ST terminal in Crockett, CA (Selby Terminal) currently has 25.5 million gallons of storage in ethanol service, and could have an additional 16 million gallons in ethanol service by the end of 2002. The additional tankage will be made available from the conversion of 8,400,000 gallons of MTBE storage to ethanol, and from efficiencies gained in converting an additional 8,000,000 gallons currently in separate gasoline and distillate storage held independently by refiners into a commingled ethanol system.

We currently have the capability to unload about 682,500 gallons of ethanol per day from railroad tank cars, and have achieve this level for sustained periods. About half this volume is transshipped via barge to Los Angeles. Maintaining this level of rail car unloading on an ongoing basis is difficult for the railroad

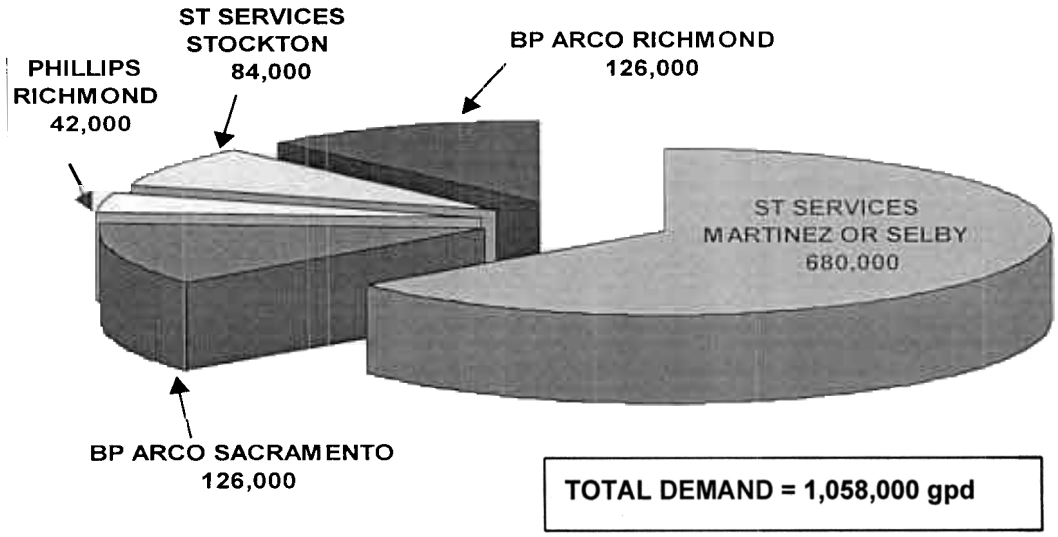
2801 Waterfront Road
Martinez, CA 94553
Phone 925-228-3227
Fax 925-228-5617

due to track congestion. Therefore, we are starting a project that will improve the handling at our rail facility to eliminate the problems caused by track congestion. This project includes increased pumping capacity from the rail unloading facilities to the tanks, and constructing additional unloading and storage track space. We are implementing this project in conjunction with Union Pacific Railroad, keeping the capital investment for each company to a reasonable level.

We currently have the capability to load about 400,000 gallons of ethanol per day to tank trucks, and are starting a project to increase this capacity to about 800,000 gallons per day.

The combination of rail unloading, storage, and truck loading achieved at this facility by these fairly modest capital improvements will allow the terminal to easily handle the 682,500 gallons per day of ethanol expected for this terminal when MTBE is eliminated. The chart below shows how other facilities in Northern California will handle the balance of the 1,058,000 gallon per day demand for the area. The terminals are either able to handle these volumes now, or have projects in place to accommodate the storage volume and rail capabilities.

Ethanol Supply Terminals -- Northern California
(in Gallons per Day)



In addition to these existing facilities, ST Services, US Development Group, and Burlington Northern Santa Fe Railway are exploring the possibility of providing a new rail facility in Martinez with the capability to unload 100 ethanol rail cars ("unit train") in 24 hours. This ethanol would be pumped via a new pipeline to tanks at the ST terminal a mile away on Waterfront Road in Martinez, and redelivered to trucks via the terminal's truck loading facilities. These truck facilities are currently under utilized and can handle the entire anticipated outbound truck volume for Northern California.

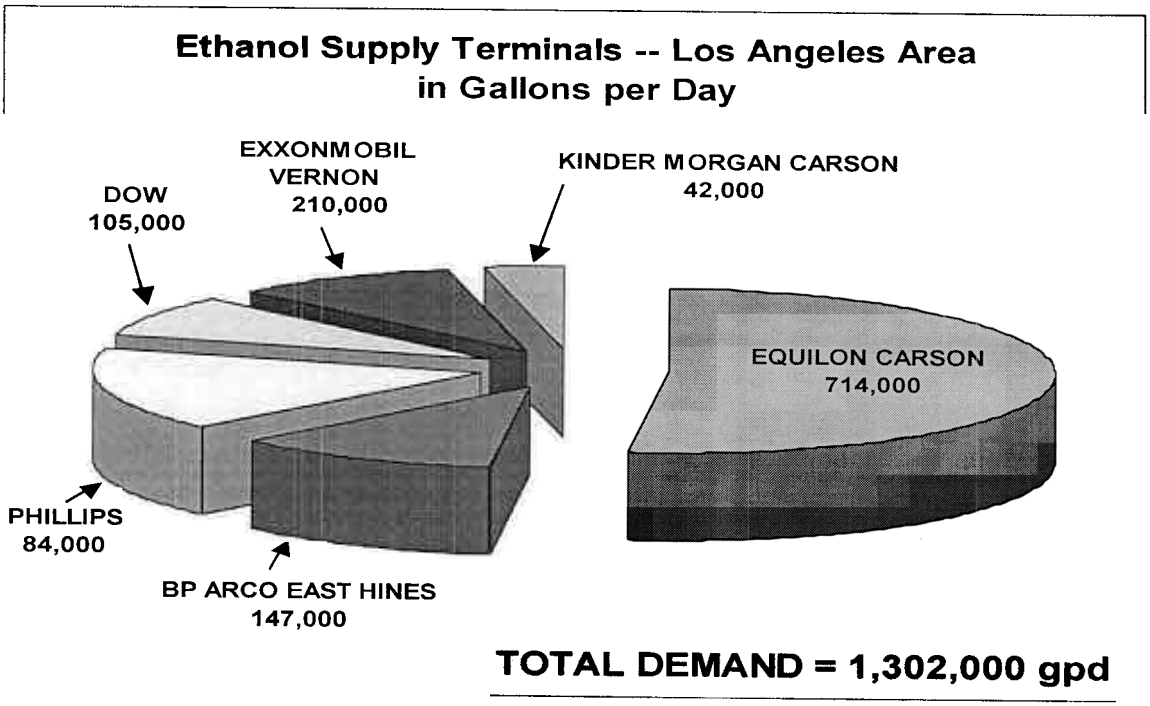
Both the ST Crockett and Martinez terminals have the capability to receive very large quantities of ethanol by ship. Our customers currently bring to Northern California large cargoes of US Midwest ethanol via the US Gulf Coast, and also foreign ethanol, if the economics work better than domestic

2801 Waterfront Road
Martinez, CA 94553
Phone 925-228-3227
Fax 925-228-5617
www.stservices.net

sources. This capability provides the competition required to prevent ethanol product and transportation prices from getting out of hand.

ST's terminal in Stockton currently receives about 55,000 gallons a day of ethanol by rail car into a large storage tank where it is redelivered to trucks of ethanol-blended gasoline and neat ethanol. Total capacity at this facility for rail car offloading and truck loading is about 300,000 gallons per day.

In Southern California, similar projects are commencing that will handle the volumes of ethanol required there. Modifications to a rail yard in Los Angeles will enable unit train efficiency. The following chart shows how ethanol can be handled in Los Angeles. Similar to the Bay Area, the fairly moderate costs of these projects are easily justified by the volumes of ethanol that will move through these systems.



Given all of these capabilities, we believe that inbound ethanol will have no logistical constraints in Northern and Southern California.

2) Storage and Handling of Imported Blend Components. The draft mentions the supposed difficulty in finding alkylates, "nearBOBs", and other blend components, and the difficulty in finding import tankage for these components. The refining product buyers who I communicate with every day tell me that they are not asleep at the helm, that they know what their blending programs look like after MTBE is gone, and that they are lining up sources of these components. They explain that it is not in their best interest to explain to a consultant such as Stillwater how their programs will work. Some of these components will go through the refineries and some will be imported into third-party terminals.

Tankage space in both places will come from a higher demand for utilization by these components. We have seen an example of this at one of our Bay Area terminals. In 2001, about 29 million gallons of storage was used for Jet A arbitrage trading and other distillate import and blending. These activities commanded about $0.32 per barrel per month on average for tank space. A higher demand for gasoline

2801 Waterfront Road
Martinez, CA 94553
Phone 925-228-3227
Fax 925-228-5617
www.stservices.net

components in late 2001 and early 2002 converted all of this storage to imported gasoline "nearBOB" and other gasoline components. This activity commanded about $0.44 per barrel per month for the tank space. So, for a premium of $0.12 per barrel, or less than $0.003 per gallon, tank space was converted from a less value-added service to gasoline importation. We believe this occurrence across all the various refinery-owned and independent terminals will allow imports of components which will prevent the severe shortfalls predicted in the Draft at a reasonable cost to the importers.

Pat, we strongly urge the California Energy Commission to stay with the plan to phase out MTBE by the end of 2002. The infrastructure in California can handle both the ethanol and other required components. The market is the best mechanism to bring equilibrium to the system. The sooner we begin allowing the market to provide channels for the components required to replace MTBE, the less competition we'll have from other areas of the country for these components and the infrastructure.

Thank you for your time.

Sincerely,

Tony Hoff

Vice President, Marketing

2801 Waterfront Road
Martinez, CA 94553
Phone 925-228-3227
Fax 925-228-5617
www.stservices.net

SIERRA
ECONOMIC
DEVELOPMENT
DISTRICT

February 20, 2002

California Energy Commission
1516 Ninth Street, MS 23
Sacramento, CA 95814

Attention: Debbie Jones for Pat Perez: via fax (916) 654-4676

Re: MTBE Phase-Out – "Stillwater Associates" Report Comments

NEVADA, PLACER,
AND SIERRA
COUNTIES

The Sierra Economic Development District (SEDD) is concerned that extending the use of MTBE will have significant environmental impacts on California's water systems. Northern California is the source of the drinking water supplies for most of the state. At the very least, we need your support in maintaining our water quality by ensuring that the gasoline supply of this area is MTBE-free.

SEDD also supports the development of the ethanol industry in California and has been actively facilitating a regional (Placer/Yolo County) ethanol project including completion of a feasibility analysis and business plan. In-state ethanol production can and will increase supplies in California with a clean renewable fuel source, create jobs, stimulate rural economies, return billions of dollars to the state's economy, while also providing for improved water quality, air quality, and forest health.

California agriculture is poised to rise to the challenge of the MTBE phase out by joining together and producing ethanol within the state. This is a great opportunity for California farmers and will provide value-added benefits to the state's agriculture industry, encouraging other regional ethanol production facilities that can utilize a diversity of feedstocks such as agricultural products and by-product materials, woody biomass derived from the wildfire fuels reduction and forest thinning practices, and municipal solid wastes.

We urge you not to move the deadline for phasing out MTBE. Extending the current deadline will have a negative impact to our water systems, severely hamper the development of the ethanol industry in this state, and delay a much-needed economic boost to agricultural and forest based communities within our great state.

560 WALL ST.
SUITE F
AUBURN
CALIFORNIA
95603-3931
PH 530-823-4703
823-4142

Betty Riley
President

South Tahoe
Public Utility District

1275 Meadow Crest Drive • South Lake Tahoe • CA 96150
Phone 530 544-6474 • Fax 530 541-0614

February 25, 2002

The Honorable Gray Davis
Governor of California
State Capitol
Sacramento, CA 95814

Dear Governor Davis:

I write on behalf of the South Tahoe Public Utility District urging you, in the strongest possible manner, to remain resolute in removing methyl tertiary butyl ether (MTBE) from California's gasoline supplies on or before December 31, 2002. You have been a strong advocate for protecting our precious drinking water supplies and the District appreciates the special status you gave Lake Tahoe in your executive order. However, each additional day MTBE remains in our gasoline is another day our drinking water supplies are held hostage.

As a public water agency that has seen a pristine aquifer and water distribution system ravaged by a chemical that has little or no air quality benefits in modern engines, I cannot stress too strongly how quickly and insidiously this chemical can contaminate. Time is of the essence, and giving the oil industry ant more time places more and more drinking water sources at risk.

The District looks forward to your continued leadership in water quality issues and specifically in MTBE removal. Please make the decision that will continue to protect our drinking water supplies. Californian's should not have to ransom their drinking water in order to keep gasoline prices low. Should you or your staff have any questions please feel free to call me at (530) 541-5255 or Dennis Cocking, District Information Officer, at (530) 544-6474 ext. 208.

Best regards,

Duane Wallace

Duane Wallace
President, Board of Directors

cc: Senator Rico Oller
Assemblyman Tim Leslie
Pat Perez, California Energy Commission

****

Before the

CALIFORNIA ENERGY COMMISSION

FUELS AND TRANSPORTATION COMMITTEE

Comments on the Possible Impacts of MTBE Phase Out On Gasoline Supplies

Submitted by Thomas A Schmitz
President, **TASC**onsulting
P.O. Box 71066
Chevy Chase, MD 20813-1066
tschmitz.consulting@verizon.net

****

COMMENTS ON THE POSSIBLE IMPACTS OF MTBE PHASE OUT ON GASOLINE SUPPLIES

Introduction and Qualifications

My name is Thomas A. Schmitz. I am the President of **TASC**onsulting with offices in Chevy Chase, Maryland. I offer economic and management consulting services focusing on transportation, logistics, and supply chain management.

I have been continuously employed in the transportation and logistics field for the past 28 years. During this period, I have offered consulting services pertaining to transportation by railroads and motor carriers, as well as barges along the inland waterways, coast-wise ships, and domestic and international intermodal shipping via non-US flag steamships. While I am proficient in all of these areas, I am a recognized expert in the area of railroad pricing, cost-of-service, and operations.

I have been employed in several capacities at the former Interstate Commerce Commission (now the federal Surface Transportation Board); notably as Chief of the Cost and Financial Analysis Section, and most recently as the Chief Economist for that Agency. In that role, I was responsible for the staff recommendation to the Commissioners relating to their approval of rail mergers, abandonments, track construction, etc. based on the likely impacts of those events on the adequacy of rail service to the public and the impact on rail transportation rates in affected markets.

Likewise, I have provided consulting services to A.E. Staley, Minnesota Corn Processors, ADM and others and recently completed an assignment for the largest grain cooperative in Queensland, Australia. Further, I have represented the interests of the Port Authority of New York and New Jersey and the Port of Vancouver, BC. I examined both East and West coast port competition and congestion as well as the expected growth of intermodal import and export traffic on throughput productivity and on the local distribution of traffic to and from those parts via railroads and motor carriers.

Thus, my background allows me to take a holistic view of the infrastructure and supply chains that will be required to transport ethanol from Midwest producers into California. My resume is attached as Appendix A.

Recommendations

- Commercial agreements and investments to ensure an adequate supply of ethanol into California have been hampered by the lack of regulatory certainty. CEC should reconsider the original motivations for the ban of MTBE in light of the uncertainty surrounding ethanol logistics.

  During the period of a possible extension, a rigorous study should be initiated to identify and address the numerous and complex transportation and logistical bottlenecks associated with deliveries of ethanol from the Midwest (PADD II) to California.

- After completion of these further study efforts, and well in advance of the final deadline, actions should be taken to facilitate and promote commercial agreements between ethanol producers, terminal operators, refiners, and transportation providers that will resolve the gasoline supply and logistical bottlenecks that CEC has identified.

- Because it is likely that a logical and efficient sequence of numerous and complex interrelated commitments, operating agreements and investments among ethanol market participants will be required to ensure the development of the ethanol industry and the formation of reliable supply chains to move it to new markets, there is tremendous risk that the ethanol market will not evolve sufficiently to be able to deliver sufficient ethanol to California on a future date certain. If the State decides to postpone the effective date, but proceeds with the MTBE ban, a schedule should be created for periodic receipt and analysis of detailed certifications that outline the actions that ethanol market participants have taken to ensure timely and safe compliance with the ban. Because supply is driven by demand, the submission of data from ethanol producers, terminal operators, and transportation carriers and other necessary participations in the supply chain should be coordinated with the refiners (individually or collectively) in the context of the laters' expected plans for the procurement of ethanol, as well as the procurement of additional gasoline supplies that will be required to replace MTBE.

A regulatory process like the one recommended above, is critically important to reinforce the certainty of California's position on fuel oxygenates, ensure timely compliance, and assure California consumers of a smooth transition from MTBE to ethanol. It is incumbent upon the State of California to study the critical issues that have been identified and to develop a schedule that will protect the public interest.

Overview of Comments

During the recent hearing held in Sacramento on February 19, 2002, Stillwater Associates, delivered a summary of their recommendation to postpone the MTBE ban in California for a sufficient period of time to allow actions to be taken to avoid projected gasoline supply shortfalls and the subsequent price volatility such shortages would create.

Those predicted shortfalls arise from a series of factors including the volumetric differential between MTBE and ethanol as fuel additives, but this is only part of the reason to be concerned about gasoline shortages and price volatility. The other half of the equation is a timely, reliable, economic, and safe supply of ethanol at appropriate locations in California markets.

Because it was necessary to develop a reasonable scope for their study, Stillwater took the availability of ethanol necessary to supply the needs of California as a "given". I do not fault Stillwater for making this assumption in order to draw reasonable boundaries around their work effort and I otherwise found their methodology and approach, analysis, conclusions and rationale compelling.

While the study only addressed some of the logistics impacts of an MTBE ban, noting insufficient terminal capacity and blending apparatus, congestion at California's ports, and the questionable availability of Jones Act and OPA tankers, a more exhaustive list of supply chain issues affecting a reliable stream of ethanol should be completed.

The purpose of my comments is to highlight for the Commission the danger of assuming ethanol supplies are a *fait accompli*. There are two necessary components for an adequate supply of ethanol; namely, sufficient production capacity and reliable transportation and logistics. I am not competent to address the former, but I am well qualified with respect to the later.

Comments and Observations

Of course CEC has recognized that ethanol logistics must be in place as a necessary prerequisite for a successful MTBE Phase Out (See: the presentation materials of Gordon Schremp at the recent hearing). CEC has already identified many of the most significant ethanol logistics factors that will require resolution; for example, sufficient unit-train off-loading facilities, adequate storage tank capacity at receiving points, the likely necessity for "hub and spoke" distribution by motor carriers within California, and the need to split deliveries of ethanol between vessel receipts on the coast and railroad deliveries at selected terminals.

However, I am unaware of any comprehensive effort by the Commission to assure that responsible parties (refiners, ethanol producers and terminal operators) are actually making the necessary infrastructure investments and

developing the types of supply chain contracts and commitments that will ensure a reliable, safe, economically stable, and sufficient stream of ethanol.

Such an effort is just as important to a successful Phase Out of MTBE as is the resolution of the gasoline shortfalls projected by Stillwater Associates. Without coordination, fragmented efforts by refiners, producers, terminal operators, and transportation providers might not develop the ethanol market to a degree that it can deliver California's needed supply of ethanol for some time.

Alternatively, such fragmented efforts might well result in incomplete (or inefficiently located) infrastructure, inadequate inventories due to a failure to sufficiently understand (or control) a myriad of supply chain bottlenecks, inadequate transportation assets, and/or ill-conceived, unsafe, and unreliable operating plans in any of the transportation links that are necessary to deliver ethanol to California. Any of these events could result in a total inability to meet ethanol requirements on the required date, or trigger a complete breakdown in the supply chain during the transition period, leading to the same types of gasoline shortages and price volatility as those predicted by Stillwater.

An unanticipated increase in demand for transportation and other logistics services in one supply chain, which is due to the operational inadequacy and/or cost of service via a competing supply chain, will likely result in short run capacity constraints, delays, and increased costs in the supply chain with the unexpected demand. Of course a free market will evolve and eventually adjust itself over time, but until it does there will be disruptions and shortages of ethanol leading to price volatility in the cost of gasoline at the pump.

However, given the "all or nothing" regulatory and practicality requirements for oxygenated gasoline in California (either all MTBE or all ethanol), it is unreasonable to assume that, without coordination, oversight, and the certainty of demand, that the evolution of the ethanol market and required supply chains will evolve in a manner that can deliver sufficient quantities of ethanol on a date certain in an economical, reliable, and safe fashion.

One if by Land, Two if by Sea

The famous signal expected by Paul Revere is likewise important in this case. Ethanol is coming! Ethanol is coming! Forewarned as to the type of invasion (deliveries) to expect, the State of California can prepare its defenses (infrastructure) appropriately.

I believe the most significant example of possible unintended consequences that could result from an uncoordinated logistics plan is the development and location of sufficient storage and blending facilities (and attendant infrastructure) within California. Without a complete and accurate understanding of the demand for service I fear investors will refuse to make capital available, or will risk their best guess for the location and size of terminal facilities. This is not good enough!

Decisions on the location, size, type and amount of on-site transportation infrastructure needed, and the local distribution plan for each of those facilities, will largely be based on the modal split of ethanol deliveries to California between vessel and railroad. Another key factor in determining the size and location of storage is the potential impact of seasonality factors. If ethanol producers are making fructose in the summer rather than ethanol[1], than the demand for ethanol must be filled during the remaining portion of the year. This will necessitate storage at origins, destinations, or staging areas and potentially lead to uneven receipts of product during peak production times; thus, requiring a greater inventory. Similarly, there is a great potential for winter weather to impact the transportation of ethanol by barge on the Upper Mississippi or by railcar across the mainline central corridor via the Union Pacific Railroad, or across the northern tier mainline via the Burlington Northern Santa Fe Railway. These factors would also compel a greater safety stock in inventory; requiring greater storage capacity.

Accordingly, capital projects for creating sufficient, appropriately located, tank storage will not likely be started until investors are reasonably confident that they understand the amount ethanol (and the transportation schedules and traffic lanes) that will be delivered by each mode of transportation. Only then can investors estimate the expected utilization of those assets.

Similarly, refiners or other responsible parties will not develop detailed plans for the distribution of ethanol from hub to spoke tanks until they can understand the requirements for such service, i.e. the location and magnitude of rail and vessel receiving points.

Following this reasoning, CEC should move away from its focus on California's infrastructure and study the impact of key factors on the demand for, and supply of transportation services by mode. For example, factors such as the relative capacity, reliability, safety, and delivered price per gallon for vessel should be estimated, versus railroad delivery of ethanol, into each of California's major markets. To make these determinations, the study will have to move back through the supply chain to determine the likely locations for the origination (consolidation points) of ethanol destined for California markets. In reality, ethanol market participants will have to move forward and back through their supply chain analyses in a linear program fashion; optimizing supply chain links with each ensuing assumption and firm procurement commitment or capital investment.

---

[1] Summer is the high demand period for fructose by Coca-Cola and Pepsi as well as for ethanol in California according to comments made in the recent hearing.

For example, aside from those logistical concerns that have already been identified as critical to waterborne delivery of ethanol to the California coast[2], one might conclude that because the required volume of ethanol is only half the current volume of the MTBE it is replacing, that there will be excess capacity freed up for that portion of MTBE that is currently delivered by vessel and therefore, the resolution of those earlier concerns is sufficient to assure a reliable supply of waterborne ethanol. Nothing could be farther from the truth!

There are significant differences between the relatively simplistic supply chain that currently delivers waterborne MTBE (largely from Gulf Coast producers located directly on or near the water) and the complex intermodal supply chain that would deliver ethanol down the Mississippi River[3] to vessel staging areas in New Orleans. Unrealistic assumptions about the efficacy of operations, the availability and productivity of transportation assets and capacity of the River and its locks, or the ultimate cost of services related to any of those supply chain components, could lead to a surplus or shortage of inventory at many different points along the supply chain.

Since the total supply chain (from PADD II to California) must function in an integrated fashion, each subsequent link dependent on the integrity of the preceding one, sophisticated analysis will generate solid commitments (ie, take or pay contracts) in order for the subsequent transportation and terminal storage providers to understand the demand for their services in their supply chain link. This will enable appropriate infrastructure projects to proceed, and necessary transportation and distribution plans to be developed at barge terminal loading facilities on the Upper Mississippi River, terminal staging facilities in New Orleans, and ultimately, California coastal markets.

Similarly, for ethanol production that does not have water access, producers will collaborate with railroads, to put together efficient staging areas for the collection of sufficient railcars to make up trainload movements[4] to various California hubs.

---

[2] Namely, port congestion, the availability of Jones Act/OPA 90 ships, and sufficient terminal capacity at those locations.

[3] Barge turn-around times, equipment availability, seasonality factors, storage and loading capacity and productivity at liquid terminals on the Upper Mississippi River, and locking delays to name a few. In addition to the actual loading/unloading and river barge transportation, there is also the potential for idealistic assumptions related to the supply chains that will deliver ethanol shipments to the River, i.e., refusal by the railroads to offer competitive rates for the delivery of ethanol to the River thereby forcing a greater quantity of California's total ethanol transportation needs over the railroads' long haul. Similar idealistic assumptions could also be made regarding the extensive trucking operations that would be necessary to move ethanol from production facilities in sufficient quantity to efficiently load barges, including the availability of sufficient highway infrastructure to get trucks in and out of river terminals and the potential adverse community impacts that might arise.

[4] The references to unit-train service that have arisen are real misnomers. By definition, unit train railcar sets are rarely uncoupled (except to change out power or bad order cars). They are loaded on loop tracks while the locomotive power pulls the cars under loading facilities and are

Very few producers would currently appear to have sufficient volume to independently load enough rail cars to fill out an entire train. Even fewer existing terminals in California are capable or receiving an entire train. Accordingly, a complex determination of actual railroad origin and destination points, for each production and consuming market respectively, needs to be cooperatively developed in order to identify needed infrastructure requirements for the disperse collection and distribution of these rail car shipments.

Conclusions

Designers of both railroad supply chains and waterborne supply chains will also make independent assessments of the overall competitiveness of the delivered price and service standards they can offer viz a viz the other alternative. Such analyses will form the basis for the expected magnitude of traffic they will handle and set requirements for the acquisition of necessary transportation assets, labor, and infrastructure at each node (link) in the integrated supply chain as well as permitting the development of detailed operating plans to safely and efficiently execute the movement of product over each link.

The transportation and logistics bottlenecks I have discussed in the examples herein are, by no means, an exhaustive list. Hopefully, they highlight the reality that the development of the ethanol market, and supply chains that are capable of delivering a sufficient, reliable and safe stream of ethanol to California on a future date certain, will require extensive study, coordination, and monitoring to ensure compliance.

Moreover, the certainty of whether or not there will be a California market for ethanol will drive the market's participants to determine an appropriate sequence of their commitments, justify capital expenditure, and identify the necessary lead-time for the development of economically efficient infrastructure. CEC should take the lead in facilitating commercial agreements between market participants that will be necessary to put together these complex alternative supply chains and ensure that the procurement plans of California refiners have a reasonable probability of success.

It is not unreasonable to assume that markets for ethanol will develop at origin production plants, at specific landlocked consolidation points, at loading points on the Upper Mississippi River, staging terminals at New Orleans, receiving terminals on the California coast, and large rail-served storage and blending terminals in and around California. Refiners and terminal operators in California

---

unloaded in a similar fashion at destination loops using bottom dump or rotary dump cars. This service is essentially limited to the transportation of grain, coal, and some other dry bulk products. It is extremely important to note that, given the size and dispersion of existing ethanol production plants and the liquid character of the product, trainload quantities of ethanol cars will be loaded at logical production plants and/or trucked to large transloading sites and loaded into rail cars. Subsequently those cars will have to be assembled into trains after switching them to existing (or newly developed) rail yards in the Midwest and similarly distributed from already congested rail yards in California (or located near California enroute to/from ethanol origins).

can then develop procurement plans which might address the magnitude of product that will be bought on long and/or short-term supply contracts versus the spot market, the location of those purchases, and the party responsible for the transportation and logistics from the point of sale.

CEC has a responsibility to understand and facilitate the development of this market in order to protect the public interest of California consumers.

Respectfully submitted,

Thomas A. Schmitz

APPENDIX A - Resume of Thomas A. Schmitz

Summary of Qualifications

A seasoned transportation and logistics professional with a wide range of experience in government, private industry, and consulting applications. Significant skills in all facets of surface transportation and logistics: management, operations, strategic planning, technology deployment and communications, information management, intelligent transportation systems third-party logistics, costing, economic and financial analysis, marketing, negotiations and regulation.

Skills and Accomplishments Inventory

MANAGEMENT AND MARKETING

Managed an entire "start-up" business development for The Boeing Company. The effort was staffed using a multi-disciplinary team of engineers and transportation and logistics professionals to develop a "business case" and start-up business plan for a new business unit. The effort resulted in a new business "launch" in the area of intelligent transportation systems (location-based information) and the securing of a "charter customer".

As the current Director of Marketing and Sales for this business: actively engaged in executing a marketing plan (including establishing the value proposition for prospective customers, "branding" products and services, developing printed sales brochures, and managing press announcements. Also managing market and product development, identifying and securing channels to market, establishing value-added re-seller agreements, and negotiating partnerships, alliances, and joint ventures.

Proposed, marketed, staffed, trained, and managed a Transportation Consulting Practice aimed at Fortune 1000 companies which grew to $4 Million in revenues in 3 years. As an executive (VP and Director) in two separate consulting firms, participated in company management and strategic planning, human resources issues, budgeting, incentive compensation, and investment strategies.

Participated in and managed the start-up, growth and subsequent profitable divestiture, of a rail car management and asset tracking company.

Managed and supervised multi-disciplinary consulting teams engaged in researching markets: size, structure, trends, business cycles, competition and competitive dynamics, pricing, demand/supply and customer profitability differentials.

Managed client-staffed teams to re-engineer business processes. An example engagement resulted in the re-organization of staff responsibilities and a 30% improvement in productivity as measured by jointly negotiated KPI's (key performance indicators), and significantly lower $5+million/yr transportation rates and improved asset management.

Managed multi-disciplinary teams (economists, financial analysts, cost accountants, attorneys) engaged in rate, operations, and merger/acquisition analysis of regulated transportation firms. Responsible for technical recommendations to Chairman (ICC), coordinated with SES and executive colleagues to establish direction and ensure completion of agency goals and mission, developed precedent and policy, drafted and reviewed legislation, and prepared rulemaking decisions. Also responsible for furtherance of EEO, affirmative action, and other human resource goals, compliance with efficiency in government initiatives (ensuring no waste, fraud, or abuse), compliance with FOIA regulations, and the development of Section and Office budgets. Staffed, developed performance objectives, performed periodic employee reviews, trained, prepared individual development plans, established schedules, managed reporting requirements, and supervised public relations/customer service activities of the staff.

OPERATIONS ANALYSIS and STRATEGIC PLANNING

- Managed and participated in comprehensive study of current intercity/regional TL and LTL motor carrier operations and domestic and international intermodal operations (TOFC/COFC yard/ramp operations, "steel-wheel and rubber tire" interchanges at major gateways, drayage components, port facilities, steamship operations, customs clearances, etc.). Research and recommendations assisted The Boeing Company in assessing the business opportunity to launch an intelligent transportation business. The HW technologies and communications associated with the competitive analysis were also comprehensively researched. This effort formed the basis for a business launch to provide carriers, shippers, leasing companies and IMC's value-added location-based information services for asset and cargo management and improved customer service and to assist ports and MPO's in the identification and timing of needed infrastructure improvements.
- Advised large arbitrage firm on the attributes of the operating and business plan associated with Union Pacific Railroad's proposed acquisition of Southern Pacific Railroad; resulting in the firm holding on to their SP stock position and enjoying large gains when the merger was approved.
- Studied the Conrail merger filings, and on-site intermodal operations in and around the Port of New York and New Jersey to assess the commercial and operational implications of proposed operating and business plans on the Port. Participated in strategic planning with Port Authority attorneys resulting in a negotiated agreement for the Port to monitor and become a participating "stakeholder" in the Joint [railroad] Access Area.
- Studied rail and truck operations at the Military Traffic Management Command's Sunny Point, NC ocean export terminal as well as inland CONUS ammunition and explosive GOCO facilities to recommend improved supply chain management (modal selection model) and a railroad rate/service negotiating strategy for munitions exports to European theaters.
- Conducted six month coal transportation operations in Kentucky and West Virginia. Specifically, conducted on-site analysis of rail loading/unloading facilities, barge and truck rates and operations, capacity, cycle time, contract and spot procurement practices and market dynamics to identify alternative transportation options and contract negotiating strategy for a major Mid-Western electric utility.
- Managed and participated in numerous studies of in-plant transportation operations for Fortune 1000 companies, i.e. detailed time and motion studies and metrics development for rail, truck and barge loading/unloading operations, local switching from serving rail yards and truck/barge terminals, available capacity, cycle times, and carrier responsiveness. Recommend improved track layouts, expanded loading or transloading facilities, pre-positioned inventory placements, introduction of private switching services and rail spur construction and formation of short-line railroad.
- Participated in the ICC's motor carrier platform study that identified service units of production, time and motion standards, and assignment of cost accounting rules to the terminal operations of motor carriers (pre-deregulation of trucking in 1980).

QUANTITATIVE ANALYSIS

In numerous consulting engagements (as staff and as management/marketing) performed economic studies of market characteristics that influence elasticity of demand and pricing policies to assess current transportation and supply chain contracts and to develop leverage and strategies for rate/service negotiations with transportation providers, suppliers, or purchasers.

Analyzed the business and market and participated in the "requirements definition" for a complete SCM and e-commerce solution for a large grain cooperative in Queensland, Australia (including coordination with Queensland Rail and the Port of Brisbane.

- Analyzed the impact of a proposed merger of Canadian National Railroad and the Burlington Northern Santa Fe Railroad on the trade and business economics of the Port of Vancouver, BC.
- Performed numerous financial analyses of proposed capital expenditures. Developed financial models that enabled sensitivity analysis of key variables (inflation, revenue growth, cost of goods sold, productivity, capital structure and cost of capital, salvage value, depreciation rates and tax effects). Developed justification for model inputs and ranges of sensitivity and measured NPV of alternatives. Made detailed recommendations to management including timing, capital structure, source of capital, etc. and calculated various financial measures applicable to the recommendation (i.e, ROI, ROE, ROA, ROS, IRR, etc.).
- Participated in, and supervised, on-going refinement of the Surface Transportation's prescribed Uniform Railroad Costing System (a million lines of code costing accounting application that develops service units and unit costs for US railroads as well as individual movement costs for specific shipments and carriers). Participated in, and supervised, the 7 year negotiation of appropriate regression formulas for use in assigning annual expenditures to service units of production.
- Managed the development of the Carload Waybill Sample (a statistical analysis of the railroad traffic in the US) and performed numerous traffic flow analyses using that database as well as numerous other surface transportation traffic flow databases (Army Corp of Engineers, DRI, etc.)
- Participated in the development of accounting standards and a Uniform System of Accounts for rail, truck and barge companies (during the periods those entities were regulated).
- Analyzed for numerous consulting clients: transportation operations, costs and traffic flow and the implication of these factors on safety, the environment, operational efficiency, labor, carrier pricing and rates of return on investment.
- Analyzed economic, cost, financial and operating, and business plan evidence introduced in rate, abandonment, and merger proceedings before the Interstate Commerce Commission. Assessed the quality of opposing parties' evidence and supporting workpapers and recommended agency positions on each litigated issue.

COMMUNICATIONS AND SOFTWARE SKILLS

- Prepared detailed written proposals and Final Reports to numerous Fortune 1000 companies to provide management consulting services.
- Prepared detailed written technical analysis in Interstate Commerce Commission proceedings and delivered oral briefings to executive colleagues, Commissioners and their staffs, Congressional Staff, and GAO.
- Prepared complex technical manuals for the use of government and commercially developed models and software.

Drafted complex rulemaking proceedings and drafted legislation.

Prepared expert written testimony, and gave oral testimony on direct and cross-examination in civil and administrative litigation proceedings.

Gave oral depositions in civil litigation.

Prepared marketing brochures and qualifications packages to advertise consulting services.

Wrote detailed business plans for The Boeing Company, and Fieldston Consulting.

Organized, prepared, marketed and presented (and updated annually) a three day for-profit seminar which I delivered to transportation and logistics executives in Colorado Springs and Orlando for 6 consecutive years.

Proficient in: Excel, Lotus, WordPerfect, MS Word, PowerPoint, Milestone Scheduling software, Mapping software, Lotus Notes, MS Exchange, Internet Explorer and Netscape for research.

General understanding (what they do and how they are to be used) of ERP systems and various SCM packages.

Participated in development of systems architecture for several e-commerce and SCM solutions solicited by clients and business venture start-ups.

Professional History

August 2001 - Present	President, TAS Consulting
January 2001 – August 2001	Director, Marketing and Sales, Integrated Information Services – The Boeing Company
May 1999 – Dec 2000	Director, Business Planning and Development – Transportation and Logistics, The Boeing Company
Oct 1998 - May 1999	Vice President, PHB Hagler Bailly Consulting 1776 Eye St, NW Washington, DC
1995 - 1998	Director, The Fieldston Company 1800 Mass Ave., NW Washington, DC
1988 - 1995	Interstate Commerce Commission, Chief, Section of Economic Policy and Analysis — Office of Economics
1983 -1988	A. T. Kearney Management Consultants, Senior Associate and Project Manager
1974 - 1983	Interstate Commerce Commission, Chief, Cost/Financial Analysis Branch

Testimony

Verified Statement (on behalf of four large shippers), Surface Transportation Board, Market Dominance Determinations – Product and Geographic Competition. Ex Parte No. 626. May 1998.
Verified Statement (on behalf of the Port of New York and New Jersey), Surface Transportation Board, F.D. 33388, CSX Corporation and CSX Transportation, Inc., Norfolk Southern Corporation and Norfolk Southern Railway Company. October 1997
Verified Statement and Expert Testimony (on behalf of United States Pollution Control, Inc. and USPCI), Khosrow B. Semnani v. United States Pollution Control, Inc., Civil No. 2:95 CV 638C in the United States Court, District of Utah, Central Division. April 1999

Presentations

Railroad Logistics and Negotiating Strategies Seminar Presentation, Colorado Springs July 1999 (and prior 5 years)

Business Opportunities and Threats for the Tank Truck Industry Arising from Rail Industry Consolidation. Presentation to National Tank Truck Conference — Executive Forum. Chicago, Ill. November 1998.

Railroad Business Plan and the Public Interest Debate Presentation to Pacific Northwest Shippers Association, September 1998 and to Western Coal Transportation Association, September 1998.

Regulatory and Legislative Threats to the Rail Industry Presentation to Schroders & Company, New York City, June 1998.

Developing Opportunities and Strategies in a Post-Merger Environment — A Workshop for Gulf Coast Shippers Presentation to the Transportation Club of Houston, October 1996

Professional Organizations/Awards

Member: Council of Logistics Management
Award: ICC Chairman's Award for Exceptional Achievement – May 1991
Award: ICC Certificate for Outstanding Commitment and Significant Contributions – 1992

Education

Thomas Jefferson H.S., Annandale, VA -- 1970
George Mason University, Fairfax, VA — Bachelor of Science, Business Administration, Accounting Major, 1973
Advanced Regulatory Studies Program, National Association of Regulatory Utility Commissioners – 1992

Pat Pèrez - Comments on Possible Impacts

From: "Piel, William J" <William.Piel@Lyondell.com>
To: <pperez@energy.state.ca.us>
Date: 3/1/02 8:19 AM
Subject: Comments on Possible Impacts
CC: <gschremp@energy.state.ca.us>

Pat Perez

Attached is a Word doc containing comments from TEIR Associates on the "Possible Impacts of the MTBE Phase Out on Gasoline Supplies". Please call me at (610) 359-5728 or email me if you have any questions.

Bill Piel
TEIR Associates, Inc
160 Hidden Hills Rd
Media, Pa. 19063

William.piel@teira.com <mailto:William.piel@teira.com>

<<TEIR Comments on Impacts of MTBE Ban.doc>>

TEIR Associates, Inc
160 Hidden Hills Rd
Media, Pa. 19063
(610) 566-1483
william.piel@teira.com

February 28, 2002

Patrick Perez
California Energy Commission
1515 Ninth Street, MS 23
Sacramento, CA 95814

Re: Possible Impacts of MTBE Phase Out on Gasoline Supplies

Dear Mr Perez,

After reviewing the report given by Stillwater Associates, Inc. at the Feb 19 Workshop, TEIR Associates is providing a number of comments on the referenced subject which are attached. However, a number of the main concerns have been summarized in the following paragraphs.

Stillwater Associates made an excellent case that California will experience a "prolonged" gasoline supply shortage that will last more than a year if MTBE use is banned. Since this is not a temporary imbalance or short term supply event, a sustained market price increase of 50 cents per gallon (estimated by the Stillwater analysis) is required to reduce California's 15 Billion gallon annual demand by 5% to correct the imbalance. This price increase raises the cost to California consumers by about $7 billion more per year. However, if the demand has to be reduced to 13.5 billion gallons per year to match a 10% shortfall in supply, the required $1.00 per gallon increase will cost the consumers about $13.5 billion more per year until new supply capacity can eventually be established. These financial impacts are much greater than those stated in Stillwater's economics slide of their presentation, and will have about the same financial impact for California as last year's electrical power supply crisis.

The refiners have publicly countered that they are making the necessary process modifications to meet the new RFG3 specifications without the use of MTBE such as adding distillation capacity to remove front-end pentanes and the back-end heavy tails. However, both these modifications only serve to reduce gasoline supply capability at the in-state refineries, and no refinery modifications have been announced that will actually expand gasoline capability to replace the lost MTBE volume. Also not well clarified in the report is that these prolonged shortages are almost exclusively due to banning MTBE, and that lifting the federal oxygen standard will not likely alleviate the chronic shortage.

Given that the water supply crisis predicted by University of California 1998 Study on this issue has not occurred, it would seem that the need to remove MTBE from California has not materialized. As a further confirmation, James Giannopoulos stated recently that a study by his department showed that only 6 water supply wells in all of California were actually taken off line due to MTBE MCL exceedences (not the 10,000 number quoted in the media). The contamination for these 6 wells resulted from LUST that occurred in the mid-1990's when the UST leak prevention program was only about 50% implemented.

In summary, the "predicted" threat to water supplies seems to have been mitigated with California's UST leak prevention program. However, as suggested by the Stillwater analysis, California will incur a very "real" gasoline shortage and price increase that will cost consumers and the California economy many billion of dollars to the benefit of the another energy industry. Therefore, it seems warranted to slightly modify a recent quote by Governor Davis regarding ethanol on this subject. "There is no reason scientifically or economically that California should have to remove the 10% MTBE by volume in every gallon of gasoline sold in California."

TEIR Associates appreciates the opportunity to comment on this matter. As always, I am available to answer any follow-up questions that you may have. As someone who has for many years been working for good transportation fuel policy, it would be very disappointing to see California residences experience another unnecessary energy crisis that will be attributed to government regulations of the marketplace.

Sincerely,

William J. Piel

Business Director

TEIR Associates, Inc
160 Hidden Hills Rd
Media, Pa. 19063
(610) 566-1483
william.piel@teira.com

Comments to the California Energy Commission
Possible Impacts of MTBE Phase Out on Gasoline Supplies
Workshop Presentations February 19, 2002

By
William J. Piel
TEIR Associates, Inc.

C7 Alkylate supplies do not exit today (or next three years) -

Based on the chemical propylene supply balances from the CMAI report used by Stillwater Associates, over 90% of the refinery propylene production goes to high value petrochemical sales. The remaining refinery propylene is used to produce about 30 M BPD of residual C7 alkylate which is only about 3.5% of the total alkylate produced in the US. Since this residual C7 alkylate is co-produced and dispersed with all the C8 alkylate production, it would be economically impractical to put small and costly separation operations to recover this residual C7 alkylate at all 200+ FCC process units in the US. Therefore, to develop a reliable 75 M BPD of C7 alkylate supply for transfer to California, it would require about 30 US refiners to divert all their refinery propylene production away from high value petrochemical sales to C7 alkylate production. These refiners would also have to install a C7 alkylate separation unit, new segregated storage and rail loading facilities to ship the C7 alkylate to the West Coast. Rail shipping would likely be required since it is not economically practical to stockpile a 2 M BPD production for 100+ M BBLs of ocean going shipments for the West Coast.

Needless to say, diverting this amount of refinery propylene away from the their existing high-value petrochemical supply contracts would take years, particularly when building the C7 infrastructure requirements are considered.

MSAT does not allow substitution of gasoline imports for clean components in US gasoline pool -

The Stillwater Report proposed that one potential market supply source of clean components might be to recover them from Gulf Coast gasoline production by replacing it with like-volumes of gasoline imports into the NY market. This volume substitution or balancing in the gasoline market may have been allowed in prior years. However, effective January 1 this year, EPA implemented the MSAT (Mobile Source Air Toxics) regulation which requires that the whole gasoline market maintain at least the minimum amount of toxic cleanliness that is equal to prior reference year. Therefore, higher toxic gasoline imports can no longer be substituted for the removal of low toxic gasoline components from the gasoline production in the Gulf Coast.

No Alkylate Production from converted Merchant MTBE Units per US EPA's PACE Study –

EPA contracted PACE to study the economic incentive to convert MTBE units to alkylate or isooctane products if MTBE should be banned. Based on the recent historical market values (1994 to 2000), PACE concluded that such process units could not even cover their operating cash cost let alone any required new capital recovery with market values. Since PACE's analysis shows that large price premiums over market value would be required for them to convert and operate, they concluded that conversion would only occur if long term supply contracts with large premium above market could be secured. PACE felt that these types of contracts were not achievable in these markets of regulatory uncertainty , and therefore stated that *"given the premiums versus their product blending values that most converters would need, it appears entirely unlikely that many merchant-market buyers would be willing to participate on this basis."*

Source: "Economic Analysis of U.S. MTBE Production Under an MTBE Ban", Draft Report for US EPA, PACE Consultants, May 2001, Docket No. A-2001-20-11-A-1

TPC

TEXAS PETROCHEMICALS LP

March 1, 2002

California Energy Commission
Attention: Pat Perez
1516 Ninth Street, MS 23
Sacramento, CA 95814

Re: Possible Impact of MTBE Phase Out on Gasoline Supplies - CEC Workshop February 19, 2002

Dear Mr. Perez,

Texas Petrochemicals LP ("TPC") thanks you for the opportunity to provide written comments relative to the CEC Workshop of February 19, 2002, on the subject of Possible Impact of MTBE Phase Out on Gasoline Supplies. TPC is an employee owned company with 320 employees. The core business of the company includes the dehydrogenation of isobutane for the merchant production of MTBE. The company has a major commitment to supply components for clean burning gasoline to comply with the Clean Air requirements of the nation. This commitment includes a reliable supply of products in a cost efficient manner. It is with this background that we submit comments relative to the workshop in an effort to be supportive and helpful to California.

We thank you for an in-depth presentation of the information as generated by the Stillwater Associates report and the work of the Commission. We found the basis of the study to be sound and the work was focused on specific areas of concern. These comments will be in response to the formal Stillwater Report and, secondly, in response to some comments provided during the discussion period.

We support the conclusion and recommendation presented that California extend the ban date for MTBE three years. This would provide time to accomplish several suggested infrastructure improvements and to determine if extensive programs that have been put in place will provide adequate protection to State resources that may lead to the conclusion that MTBE does not pose an unwanted risk to the environment. The time suggested is not excessive nor has there been any demonstrations of immediate harm. The decision to extend the time would not imperil any safety nor health issues.

A specific issue that was addressed was

CONVERSION OF MERCHANT MTBE PLANT TO ISOOCTANE FOR ISOBUTYLENE ALKYLATE.

There is no economic justification in today's economic profile to convert existing merchant MTBE plants to isooctane nor isobutylene alkylate production. The current cost of raw materials and energy to convert the butane to a product is greater than the blending value of the product. This does not consider the capital cost required to convert the units to alternative operations. Because there is no economic incentive there can be no plans committed to do such a major conversion. To provide material would require significant capital investment in the current process equipment.

The concept of engineering and making major modifications to existing facilities to convert from MTBE production to isooctane would require significant commercial incentive. This would require customers willing to commit to long-term contracts with a rateable volume at a price to return income on the investment and operating cost. These commercial opportunities have not been demonstrated. Therefore, there are no on-going plans nor commitments to make such conversions and to provide the alternative product.

If the economics were to change and the marketplace justified production of products such as isooctane there would be a significant time required to provide unit conversion. It would be necessary to do process design, detailed engineering, obtain construction permits and provide construction activities to provide the conversion. This time frame could require 36 months to achieve. Thus it becomes apparent that there are no short term provisions available to supply high quality octane components for California. The optimum blending component remains MTBE.

In conjunction with and similar to the issue of conversion cost it is worthwhile to note:

STRANDED COSTS

There was significant discussion at the workshop about the ethanol industry investing capital to produce ethanol for California. This conversation referenced Stranded Cost for these facilities. We wish to introduce the issues that merchant MTBE producers invested major capital in plants to provide MTBE to meet the need for clean burning gasoline for compliance with clean air regulations. These capital investments are in hundreds of millions of dollars and were invested in good faith to meet the specified needs. At the current time the approach is to eliminate the use of this product which is dedicated to a service. There now appears some concern of these units having no reason to operate or a proposal to convert the units to a new product that is not commercially viable. There is little question that long term a mandated subsidized product such as ethanol will have a market at least if they make the product economical. So the argument for Stranded Cost is really a strong picture for review of the MTBE producers and the fact that there is an ongoing program designed to put our company out of business and leave us with Stranded Costs. We certainly recommend that this be considered at the same time you think of new construction for ethanol. These points should also be considered seriously as

thoughts are given to converting merchant MTBE plants to alternative products such as isooctane and think of the requirements for new capital investments as the conversation continues on the lines of banning a product and shutting the production facility with no recourse on the invested capital. Perhaps the ethanol producers would be more reluctant to invest their capital if they did not have a mandate nor a subsidy. We should remember that the MTBE producers invested their money without a mandate and have never had a subsidy.

There was some consideration given that

ETHANOL REDUCES CRUDE OIL IMPORTS

There is a mistake that ethanol is a direct replacement for hydrocarbon gasoline and therefore reduces the need to import crude oil. The underlying statement by Stillwater Associates is the lack of production capability of the refiners to provide enough hydrocarbon gasoline components to meet the demands for California usage. The refineries are operating at 92-95% capacity and there will be no new plants built in the near term. The removal of MTBE from gasoline would remove 8-10% of the total pool and in the RFG areas that would be 11% of the volume. The use of ethanol does not contribute a net volume gain because it is necessary to remove components from the gasoline pool in order to blend the ethanol. This requires light end removal for RVP and heavy end removal to meet T50. Thus, if the desire is to produce a total volume to meet demand it becomes necessary to either process more crude oil in the refineries or import more components from outside. With the refineries at capacity it becomes necessary that imports would provide the shortfall. In either case, it becomes apparent that the state will be dependent upon other sources if the supplies are to be available.

There were some comments expressed during the discussion period

WATER CONTAMINATION/EXPOSURE/REMEDIATION COSTS

There have been many studies generated in recent years evaluating the contamination of drinking water sources and systems from gasoline that has leaked from underground storage tanks as well as spills and water craft. The issue that MTBE as a component of gasoline contaminates drinking water is more properly covered through technical evaluation of the detection levels of gasoline components in water systems. Consistently the reports that have been generated by the state health department for drinking water as well as technical journals that review these studies indicate that the detection of MTBE in drinking water supplies has not increased since completion of the underground storage tank upgrades. The outstanding feature associated with drinking water is the application by California of a maximum contaminate level "MCL" for drinking water. It is through the application of these standards, currently 13 parts per billion of MTBE in drinking water, that provide guidance for both quality and remediation requirements when appropriate. It is interesting to note that federal EPA has issued guidelines for MTBE in water to be less than 40 parts per billion. These MCL's are predicated on odor and taste features which make drinking water less palatable. These are not health exposure guides and should not be interpreted as measurements of risk. Actually, neat MTBE is used for

direct injection into people to desolve gallstones. This procedure has been effective for several years and there has been no reported case of lasting ill effects.

The remediation programs for MTBE are very comparable to those existing and proven techniques for remediation of other gasoline components as well as other general chemicals. The cost for remediation are fundamentally equivalent and there is no indication that MTBE requires a significantly more severe process nor more costly operation than other generic chemicals. The primary control that should be targeted is the prevention of leaks of gasoline into the environment. There was a ten (10) year program to upgrade and correct deficient underground storage tank systems and there is a continuing effort to implement a more stringent program. It should be recognized that gasoline does not belong in drinking water. It does not matter what composition the gasoline is, this material should remain in the fuel tanks and not be released into the environment, particularly water. If gasoline is contained properly there is no problem with MTBE. If MTBE is detected in water there are other more dangerous chemicals in that same water. Thus, there should be a comprehensive program to provide clean reliable, drinking water rather than a focus made on MTBE.

In summary, TPC supports the recommendation of the Stillwater Associates report that California extend the proposed ban date of MTBE for three years. During this time the state can provide infrastructure and support systems for receiving, storing and distributing hydrocarbon components for gasoline. This would also provide time to determine that adequate infrastructure exists for receiving and distributing ethanol. There should be a major concern that such a change from a known, highly effective clean air program as the current California RFG program is, could result in reduced supplies of gasoline, resulting in exceptionally high costs to the consumer and generating an increase in air emissions because MTBE is removed from the gasoline pool. TPC remains committed to supporting our customers the refiners and our custodians, the state environmental protector, in providing high quality clean burning components at an economical price. We commend you on the quality of the study and the comprehensive manner in which you conducted the workshop. We thank you for your patience and your consideration of these comments.

Sincerely yours,

Larry Q. Goodwin
Director, Technology & Asset Evaluation

LQG-02-001:sdh CEC

WESTERN MILLING, LLC
QUALITY FEEDS

P.O. Box 1029 31120 Nutmeg Road Goshen, California 93227 Phone 559 · 651 · 1106 Fax 559 · 651 · 0246

February 22, 2002

Pat Perez, Manager
Transportation Fuel Supply & Demand Office
California Energy Commission
Transportation Energy Division
1516 Ninth Street, MS-29
Sacramento, CA 95814

Dear Mr. Perez:

Western Milling is a feed manufacturer, located in Goshen California, a business incentive zone. We have built this operation over the past few years and now have over 100 employees in the county. Western Milling is actively pursuing co-locating an ethanol facility with our current grain handling business in Goshen. This would bring additional value to the area by adding another 50 jobs not including the multiplier of the ancillary businesses that would provide service. We have been following the MTBE issue for some time and with the Governor's Executive order began analyzing the potential for building an ethanol facility.

We are very eager to pursue this opportunity to add economic development to our region, diversify our business and help provide Californians with a renewable fuel. California Agriculture can provide significant amount of ethanol to the fuel supply, as past CEC studies have indicated. Please allow us the chance. Specifically, an ethanol facility would provide an attractive market for local grain farmers and a valuable feed by-product for the dairy sector that are currently satisfied by mid-west suppliers.

It is essential that the MTBE Phase out deadline is NOT moved. Doing so will effectively eliminate the opportunity to build ethanol plants in California because of the total market uncertainty that will prevail.

Ethanol production in California makes tremendous sense and will create jobs and opportunities. We need certainty, a market, and proper incentives. Delaying the MTBE phase out will send the absolute wrong signal. Please hold firm with your deadline.

Sincerely,

Kevin Kruse
President

Cc:

Susan Kennedy
Governor's office
Via Fax – 916-445-4633

Secretary Winston Hickox
California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814
Via Fax - 916-324-0908

Secretary William J. Lyons, Jr.
California Department of Food and Agriculture
1220 N. Street, Ste 409
Sacramento, CA 95814
Via Fax - 916-654-0403

Executive VP Richard Matteis
California Grain & Feed Association
1521 I Street
Sacramento, CA 95814
Via Fax – 916-446-1063

Western States Petroleum Association
Credible Solutions ❋ Responsive Service ❋ Since 1907

Douglas F. Henderson
President

Via e-mail to pperez@energy.state .ca.us

March 1, 2002

California Energy Commission
Attn.: Pat Perez
1516 Ninth St., MS 23
Sacramento CA 95814

RE: "**Possible Impacts of MTBE Phase out on Gasoline Supplies" Workshop**

Dear Mr. Perez:

On behalf of the Western States Petroleum Association (WSPA), I am writing in response to the CEC's February 19 Public Workshop on potential impacts of the MTBE phase out on gasoline supplies in the state. We appreciate the important role your agency is playing with respect to monitoring the transition to MTBE-free gasoline in the state.

Many of the questions posed in the Committee workshop notice cannot be addressed by WSPA, as these must be responded to by our companies individually. In this letter WSPA has provided a review of some of our principles relative to the MTBE phase out, and has also provided initial comment on several items we believe your consultants excluded from their analysis. WSPA is also reviewing the Stillwater contractor presentation in detail, and will be able to provide additional comments on the study's assumptions and analysis in the near future.

WSPA continues to believe strongly that relief on the federal oxygenate mandate will provide much needed flexibility to our industry. It is critical that the state's agencies provide consistent and renewed support to the governor on the oxygenate waiver lawsuit currently before the courts. As you know, WSPA has intervened in the lawsuit and we believe an expedient resolution to the suit in our favor will help offset some of the consultants' predicted scenarios. Continued pressure on the federal government to institute a national oxygenate waiver may be more productive than a waiver for California alone.

While the Association has no position with regard to a proposed delay in the phase out deadline, we continue to state that our industry will comply with the law regardless of the date. Consistent with our communication with Governor Davis on November 7, however, if there is an extension to the phase out date we would like to recommend it be set at the end of December rather than the November date recommended by the consultants. A general comment on recent

505 N. Brand Blvd., Suite 1400, Glendale, CA 91203
(818) 543-5327 ❋ FAX: (818) 545-0954 ❋ doug@wspa.org ❋ www.wspa.org

events is that our industry and others, needs to have regulatory certainty, particularly where significant changes to our operations are required. Continual changes in government directives leads to investment uncertainties, which in turn can lead to project delays and market dislocation.

The consultant's presentation also contained two aspects we previously commented on with the administration but they bear repeating. The first involves a conclusion by the consultants that southern California is the most impacted. WSPA encourages the CEC to view the MTBE phase out implementation program from a state wide, rather than a regional, perspective. WSPA does not support a regional implementation of the phase out, or alternatively a partial or phased implementation. CEC previously noted that neither of these scenarios were feasible and posed significant risks of supply disruptions. Similarly, there was mention at the workshop that the consultant's predicted problems were largely seasonal in nature, and perhaps a solution would be to treat summer and winter fuel differently – WSPA disagrees with this concept.

WSPA continues to share the state's goal of ensuring a smooth transition to MTBE-free gasoline. During the February 19 workshop, conflicting testimony was provided about the extent of MTBE contamination in the state. WSPA recommends your agency, along with other appropriate state agencies, study these varying pronouncements and update the data on MTBE contamination in the state.

Comments were also proffered at the workshop relative to the possibility that additional gasoline volume would be available if ethanol were to be blended at 10% by volume instead of the projected 5.7% (2% oxygen by weight). The Predictive Model (PM), however, severely penalizes oxygen contents above 2%. It has been suggested that incorporation of additional data developed by AAM since the last revision of the PM would flatten the problematic response, thereby making it easier to blend ethanol. In reality, the impact of the AAM data on the PM can be expected to be small, and AAM has itself stated that it is not clear that model changes are warranted based on this data. We would be happy to provide more details of our analysis if you wish, however we want to ensure you are clear on WSPA's opposition to this concept.

In terms of gaps in the analysis, the consultant's study and report fail to identify and evaluate the impacts of major federal, and some state, actions on gasoline supply in California. The study should determine the impacts of these actions on 1) California refinery production and, 2) the projected supply and price of imported CARBOB and blendstocks from non-California sources. The consultant should evaluate how these federal and state actions impact gasoline supply both in the short-term (if the MTBE phase out deadline of 12/31/02 is retained) and in the longer-term (in the timeframe of the consultant's recommended delay to 11/2005). The major federal actions referred to are:

a) Potential federal legislation (eg. Daschle S. 1766) that could, if passed:
   -eliminate MTBE nationwide within 4 years (by 2006)
   -eliminate the minimum oxygen requirement in EPA RFG (either uniformly or at State/Governor's request)
   -add a national renewables requirement of 2.0 billion gallons starting in 2003 that escalates annually to 5.0 billion gallons by 2012
   -provide greater flexibility for RFG opt-in
b) Various existing MTBE bans in other states (eg. New York ban effective 1/1/2004)
c) EPA's adopted Tier 2 gasoline sulfur regulation
d) EPA's highway (on-road) diesel sulfur regulation
e) EPA's Mobile Source Air Toxics regulations that establish refinery-specific limits on RFG and conventional gasoline toxicity.

Another area the consultants appear to have missed is the impact of the scenarios on third party terminals and independent marketers. It was difficult from the workshop to ascertain what assumptions the consultants had made in several instances, so clearer explanations of these assumptions would be helpful.

Overall, WSPA would agree with some of the statements made at the workshop relative to the fact that California's gasoline regulations have created an "island" effect which makes the California refiners products less fungible. We would also agree with the consultant that there exist several barriers to additional gasoline supply, for example: Title V operating permits, union contracts, environmental justice requirements, subsidization of alternative fuels, SCAQMD's rule 1178, actions by the ports to restrict bulk product movements, and others. WSPA will be providing a more complete analysis of the barriers our industry faces in the near future.

In closing, I would like to emphasize the need for a decision soon on the MTBE phase out deadline since our companies only have 9 months under the current Executive Order. As always, a high level of certainty is essential for the marketplace to continue to function smoothly. WSPA and its' companies look forward to working with CEC to ensure a smooth transition to MTBE-free gasoline. If you have any questions, please feel free to contact me any time.

505 N. Brand Blvd., Suite 1400, Glendale, CA 91203
(818) 543-5327 ❦ FAX: (818) 545-0954 ❦ doug@wspa.org ❦ www.wspa.org

WHITE ENVIRONMENTAL ASSOCIATES
ENVIRONMENTAL GOVERNMENT RELATIONS

JAMES S. WHITE
PRINCIPAL

428 EAST STONE CANYON WAY
BREA, CALIFORNIA 92821-2648
weajsw@aol.com

February 27, 2002

California Energy Commission
Attention: Pat Perez
1516 Ninth Street, MS 23
Sacramento, CA 95814

Dear Mr. Perez:

White Environmental Associates is pleased to have the opportunity to submit comments on the "MTBE Phase Out in California," by Stillwater Associates. I am the principal of White Environmental Associates and have over 30 years of experience in the downstream sector of the oil industry. During that time, I developed an expertise in matters regarding underground and above ground storage systems as well as oxygenated and reformulated gasoline. While employed by Atlantic Richfield Company (ARCO), I had management responsibility for the methanol fuel (M85) program and was a member of the ARCO concept team that brought about the first commercially available reformulated gasoline, EC-1.

My primary concern regarding the Stillwater Report is the matter of whether the completion of the Longhorn Pipeline and possible Kinder Morgan expansion would eventually supply Arizona gasoline requirements. As this concern is fairly well recognized and to be addressed by others, I wish to request that the California Energy Commission (CEC) consider the attached comments that appeal to the CEC's mission and vision relative to the pending continued phase out of MTBE in California's gasoline. (1)

The main thrust of my comments is aimed at the outdated basis for Governor Davis' decision, the 1998 University of California "Health and Environmental Assessment of MTBE." This Study is in dire need of reevaluation in the interest of assuring that we are not continuing down a path that was decided based on inaccurate information. Key to this Study were predictions of major impacts on California groundwater resources that have not materialized.

Putting the perceived MTBE threat to groundwater into perspective, James Giannopoulos, Assistant Division Chief at the State Water Resources Control Board (SWRCB), recently presented the results of a review conducted by his

PHONE 714/529-0652 FACSIMILE 714/529-3679

office. This review researched the cause of over 4,000 public supply wells closing out of a total of 16,000 such wells. Mr. Giannopoulos found that just 6 wells in California have been closed due to exceedances of the state's maximum contaminate level (MCL) for MTBE. The vast majority of closed public supply wells have been closed due to detections and exceedances of MCLs for solvents and nitrates. 2

In addition to this revelation, the public water supply MTBE detection records maintained by the California Department of Health Services show a declining rather than increasing incidence of detection and at very low levels. The SWRCB leaking tank statistics show a decline in the rate of tank system failures and the claims against the leaking tank clean up fund are also on a decline. All of this is contrary to the dire predictions of the University Study.

There are also the many improvements that have been and continue to be made to the California underground tank program. Many have not recognized that the few incidents of larger contaminations occurred prior to the 1998 deadline for tank upgrades. That deadline has past and the upgraded tanks are being subjected to even greater protective measures and procedures.

I request, in the interest of California's citizens and economy, that the CEC recommend the 1998 University of California "Health and Environmental Assessment of MTBE" be reevaluated relative to the data behind it's conclusions and recommendations. It is time to take a look at this study in the light of actual real world data. 3

Sincerely

James S. White

James S. White
Principal, White Environmental Associates

Enclosure: White Environmental Associates Comments

WEA/jsw CEC0227ltr.doc

WHITE ENVIRONMENTAL ASSOCIATES
Comments on the Report:
"MTBE Phase Out in California"
by Stillwater Associates
Presented at the February 19, 2002
CEC Fuels and Transportation Commission Workshop

The basis of these comments is the potential for substantially higher costs to consumers and the California economy of billions of dollars per year. This potential has been forecasted under several different scenarios by the California Energy Commission (CEC) since 1999 and while the assumptions and real world data have changed over that period of time, the predictions continue to warn of pending gasoline supply problems and significantly increased costs. The Stillwater Associates report has added another dimension and further substantiation that with the phase out of MTBE comes many uncertainties along with certain increased costs for California's gasoline.

It is the CEC's mission and vision to, among other things, improve energy systems that promote a strong state economy while assuring affordable, reliable, diverse, safe and environmentally safe energy choices. Consistent with this excellent goal, the CEC should suggest that the time has come to take another look at the premise on which the Governor made his decision to phase out MTBE three years ago.

The premise under which California continues the march toward the elimination of MTBE from gasoline was a short-term, 1998 study conducted by the University of California system. The study had some conclusions and recommendations that were compiled during its short-term duration lacking much real world data. Although the California underground storage tank (UST) regulatory program was also evaluated in a separate effort, the results of this tank study were not considered as a part of the Governor's decision to phase out MTBE.

I have summarized several good reasons for the CEC to recommendation a reevaluation of the 1998 University of California "Health and Environmental Assessment of MTBE."

UC Study Review
Last year there were three independent reviews of the University of California MTBE Study. Each one of these reviews resulted in papers that all happened to be released during August. One paper by Dr. Gordon Rausser of University of California, Berkeley and Charles River Associates looked at the social costs of an MTBE ban in California. This report considered the full spectrum of costs ranging from gasoline costs, air quality, and water quality. The Charles River paper concluded that increased "social costs" in the range of $1 billion per year. [See reference 1.]

Malcolm Pirnie took a look specifically at the real world water quality impacts and the associated costs impacts from continued use of MTBE in California's gasoline since the release of the University of California MTBE Study at the end of 1998. They concluded

that the long-term predictions made in the University Study are very likely to be much less severe than predicted. The Malcolm Pirnie assessment noted that the records maintained by the California Department of Health Services demonstrate a decline in detections of MTBE in groundwater from public supply wells and surface water. [See reference 2.]

White Environmental Associates (submitter of these comments) also performed an evaluation of the University of California MTBE Study and independently looked at several areas common to the Charles River and Malcolm Pirnie reviews. White Environmental drew a comparison of the many University Study's conclusions and recommendation versus real world data since 1998. All of the of the real world comparisons come from reliable sources and most came from statistics and data generated and maintained by the CEC, the California Air Resources Board, the State Water Resources Control Board and the Department of Health Services. White Environmental concluded that there is a dire need to reevaluate the basis of the Governor's decision to phase out MTBE. [See reference 3.]

Drinking Water Detections Down

White Environmental Associates has been tracking the California public water system MTBE data placed on the Department of Health Services webpage since 1997. There is an unmistakable decline in detections since 1998 as confirmed by the aforementioned Malcolm Pirnie report. Exponent took this evaluation a step further and performed an evaluation of frequency and concentrations of MTBE detections in drinking water sources relative to risks to the public via drinking water. The Exponent conclusion was that MTBE is "unlikely to pose a significant health risk." [See references 4 and 5]

UST Improvements

At the same time the University of California MTBE Study was underway, Governor Wilson ordered an evaluation of the California underground storage tank (UST) regulatory program. This tank program evaluation was conducted by a UST Advisory Panel of experts from agencies and industry. The reports from this effort resulted in SB 989 that not only dealt with matters regarding MTBE specifically but was primarily aimed at improving the California tank program.

White Environmental Associates researched the State Water Resources Control Board leaking UST statistics and found that with the passage of the federal and state UST upgrade requirements, the number of new leaking UST cases were significantly declining and the number of claims against the states leaking tank clean up fund were also declining. This is consistent with the decline in detections of MTBE in public supply wells and the much lower detection levels.

The implementation of the additional UST system controls and program enhancements mandated under SB 989, will bring about even greater improvements in the reduction of

undetected tank failures and improved tank program enforcement. A few of the tank program improvements include:

- Agency sanctioned inspection frequency from once every three years to every year.
- Underground tank systems with single-walled components near drinking water wells are required to exercise enhanced leak detection.
- Under dispenser containment.
- Training for tank system owners and operators to assure they know how the leak detection systems work and what to do if they trigger an alarm.
- Testing of secondary containment systems.
- Annual testing of leak detection sensors and alarms.
- Significant new penalties for tampering with leak detector sensors and alarms.

The list of regulatory enhancements goes on. [See reference 6]

Compare UC Study with Real World Data

The 1998 University of California MTBE Study, commissioned by SB 521, was performed under a very short timetable (about 6 months) and with limited and strictly allocated funding ($500,000). If California is to go through with the phase out of MTBE in gasoline, the state owes it to the California motoring public to take another look at the results of this Study, the basis for the decision to phase out MTBE. The stakes for California and its citizenry of going forward with the phase out are very high and may be reduced but not entirely eliminated through a delay.

The California Energy Resources Conservation and Development Commission (better known as the California Energy Commission or CEC) should recommend that the California Environmental Policy Council, under the chairmanship of the Secretary of the California Environmental Protection Agency, undertake a public and open reevaluation of the 1998 University of California "Health and Environmental Assessment of MTBE" under the light of real world information and data.

WEA/jsw CEC0227cmts.doc

From: <WEAJSW@aol.com>
To: <pperez@state.ca.us>
Date: Thu, Feb 28, 2002 5:34 PM
Subject: Corrected WEA Comments

Pat,

Per our conversation in San Diego, I have added the references that I inadvertently left off my original submission. I have also added a paragraph. Please replace my 02/27/02 comments with the attached. The cover letter may stand as is. Thank you.

Best Regards,

Jim White
White Environmental Associates
February 28, 2002

WHITE ENVIRONMENTAL ASSOCIATES
Comments on the Report:
"MTBE Phase Out in California"
by Stillwater Associates
Presented at the February 19, 2002
CEC Fuels and Transportation Commission Workshop

The basis of these comments is the potential for substantially higher costs to consumers and the California economy of billions of dollars per year. This potential has been forecasted under several different scenarios by the California Energy Commission (CEC) since 1999 and while the assumptions and real world data have changed over that period of time, the predictions continue to warn of pending gasoline supply problems and significantly increased costs. The Stillwater Associates report has added another dimension and further substantiation that with the phase out of MTBE comes many uncertainties along with certain increased costs for California's gasoline.

It is the CEC's mission and vision to, among other things, improve energy systems that promote a strong state economy while assuring affordable, reliable, diverse, safe and environmentally safe energy choices. Consistent with this excellent goal, the CEC should suggest that the time has come to take another look at the premise on which the Governor made his decision to phase out MTBE three years ago.

The premise under which California continues the march toward the elimination of MTBE from gasoline was a short-term, 1998 study conducted by the University of California system. The study had some conclusions and recommendations that were compiled during its short-term duration lacking much real world data. Although the California underground storage tank (UST) regulatory program was also evaluated in a separate effort, the results of this tank study were not considered as a part of the Governor's decision to phase out MTBE.

I have summarized several good reasons for the CEC to recommendation a reevaluation of the 1998 University of California "Health and Environmental Assessment of MTBE."

UC Study Review
Last year there were three independent reviews of the University of California MTBE Study. Each one of these reviews resulted in papers that all happened to be released during August. One paper by Dr. Gordon Rausser of University of California, Berkeley and Charles River Associates looked at the social costs of an MTBE ban in California. This report considered the full spectrum of costs ranging from gasoline costs, air quality, and water quality. The Charles River paper concluded that increased "social costs" in the range of $1 billion per year. [See reference 1.]

Malcolm Pirnie took a look specifically at the real world water quality impacts and the associated costs impacts from continued use of MTBE in California's gasoline since the release of the University of California MTBE Study at the end of 1998. They concluded that the long-term predictions made in the University Study are very likely to be much less severe than predicted. The Malcolm Pirnie assessment noted that the records maintained by the California Department of Health Services demonstrate a decline in detections of MTBE in groundwater from public supply wells and surface water. [See reference 2.]

White Environmental Associates (submitter of these comments) also performed an evaluation of the University of California MTBE Study and independently looked at several areas common to the Charles River and Malcolm Pirnie reviews. White Environmental drew a comparison of the many University Study's conclusions and recommendation versus real world data since 1998. All of the of the real world comparisons come from reliable sources and most came from statistics and data generated and maintained by the CEC, the California Air Resources Board, the State Water Resources Control Board and the

Department of Health Services. White Environmental concluded that there is a dire need to reevaluate the basis of the Governor's decision to phase out MTBE. [See reference 3.]

Drinking Water Detections Down

White Environmental Associates has been tracking the California public water system MTBE data placed on the Department of Health Services webpage since 1997. There is an unmistakable decline in detections since 1998 as confirmed by the aforementioned Malcolm Pirnie report. Exponent took this evaluation a step further and performed an evaluation of frequency and concentrations of MTBE detections in drinking water sources relative to risks to the public via drinking water. The Exponent conclusion was that MTBE is "unlikely to pose a significant health risk." [See references 4 and 5]

UST Improvements

At the same time the University of California MTBE Study was underway, Governor Wilson ordered an evaluation of the California underground storage tank (UST) regulatory program. This tank program evaluation was conducted by a UST Advisory Panel of experts from agencies and industry. The reports from this effort resulted in SB 989 that not only dealt with matters regarding MTBE specifically but was primarily aimed at improving the California tank program.

White Environmental Associates researched the State Water Resources Control Board leaking UST statistics and found that with the passage of the federal and state UST upgrade requirements, the number of new leaking UST cases were significantly declining and the number of claims against the states leaking tank clean up fund were also declining. This is consistent with the decline in detections of MTBE in public supply wells and the much lower detection levels.

The implementation of the additional UST system controls and program enhancements mandated under SB 989, will bring about even greater improvements in the reduction of undetected tank failures and improved tank program enforcement. A few of the tank program improvements include:

- Agency sanctioned inspection frequency from once every three years to every year.
- Underground tank systems with single-walled components near drinking water wells are required to exercise enhanced leak detection.
- Under dispenser containment.
- Training for tank system owners and operators to assure they know how the leak detection systems work and what to do if they trigger an alarm.
- Testing of secondary containment systems.
- Annual testing of leak detection sensors and alarms.
- Significant new penalties for tampering with leak detector sensors and alarms.

The list of regulatory enhancements goes on. [See reference 6]

Compare UC Study with Real World Data

The 1998 University of California MTBE Study, commissioned by SB 521, was performed under a very short timetable (about 6 months) and with limited and strictly allocated funding ($500,000). If California is to go through with the phase out of MTBE in gasoline, the state owes it to the California motoring public to take another look at the results of this Study, the basis for the decision to phase out MTBE. The stakes for California and its citizenry of going forward with the phase out are very high and may be reduced but not entirely eliminated through a delay.

Putting the perceived MTBE threat to groundwater into perspective, James Giannopoulos, Assistant Division Chief at the State Water Resources Control Board (SWRCB), recently presented the results of a

review conducted by his office. This review researched the cause of over 4,000 public supply wells closing out of a total of 16,000 such wells. Mr. Giannopoulos found that just 6 wells in California have been closed due to exceedances of the state's maximum contaminate level (MCL) for MTBE. The vast majority of closed public supply wells have been closed due to detections and exceedances of MCLs for solvents and nitrates.

The California Energy Resources Conservation and Development Commission (better known as the California Energy Commission or CEC) should recommend that the California Environmental Policy Council, under the chairmanship of the Secretary of the California Environmental Protection Agency, undertake a public and open reevaluation of the 1998 University of California "Health and Environmental Assessment of MTBE" under the light of real world information and data.

References

1. **"The Social Cost of an MTBE Ban in California,"** August 2001, Gordon C. Rausser, Ph.D., University of California, Berkeley and Gregory D. Adams, W. David Montgomery and Anne E. Smith, Charles River Associates

2. **"Water Quality Impacts of MTBE: An Update Since the Release of the UC Report,"** August 2001, Malcolm Pirnie

3. **"So Why Are We Phasing Out MTBE?"** *a review of the study versus real world experience, Volume I, "Summary & Recommendations" from the UC Study, "Health & Environmental Assessment of MTBE,"* August 2001, James S. White, White Environmental Associates

4. **"A Probabilistic Assessment of Household Exposures to MTBE in California Drinking Water,"** 2001, Pamela R. D. Williams, Sc.D., Paul K. Scott, B.A., Patrick J. Sheehan, Ph.D., Dennis J. Paustenbach, Ph.D.,Exponent

5. **"MTBE in California Drinking Water: An Analysis of Patterns and Trends,"** 2002, Pamela R. D. Williams, Sc.D., Exponent

6. **"California Tank Program More Protective, the Proof Is In the Improvements and the Performance,"** July 2001, James S. White, White Environmental Associates

WEA/jsw CEC0228cmts.doc

Pat Perez - Williams Energy Services' Comments on the MTBE Phase Out in California

From: "Byers, Tom" <Tom.Byers@Williams.com>
To: <pperez@energy.state.ca.us>
Date: 3/1/02 2:49 PM
Subject: Williams Energy Services' Comments on the MTBE Phase Out in California
CC: "Heine, Bruce" <Bruce.Heine@Williams.com>

Attached below are the comments of Williams Energy Services on the Stillwater Associates report regarding the phase out of MTBE in California. We appreciate the opportunity to comment on the report and to make constructive suggestions for alternative solutions. If you have any questions or require additional information, please contact Bruce Heine at (918) 573-9056. Thank you.

<<CEC_MTBE4.doc>>
Thomas L. Byers
WES Government Affairs
(918) 573-6560
(918) 573-4887 (fax)
(918) 605-7509 (cell)
tom.byers@williams.com

Delivered VIA Email

California Energy Commission
1516 Ninth Street
Sacramento, California

Williams Energy Services' Comments on the MTBE Phase Out in California

Williams Energy Services ("Williams") appreciates the opportunity to comment on the recent report issued by Stillwater Associates for the California Energy Commission (CEC) regarding the phase out of MTBE in the state. Williams is a major stakeholder in virtually every sector of the energy industry. We produce, gather and process natural gas, manufacture petrochemical feedstocks for the plastics industry, refine crude oil, manage a nationwide refined products terminal network, produce renewable ethanol and operate retail travel centers. Moreover, we operate over 60,000 miles of pipelines across America and are a generator and marketer of electricity and other commodities. We would be directly affected if the CEC, other state agencies or the Governor made any change in policy regarding the MTBE phase-out.

Williams believes that Stillwater Associates and CEC staff should reconsider several base assumptions and an alternative solution prior to a formal recommendation to delay the MTBE phase-out. Williams believes that there are realistic alternatives to a delay of the Governor's existing schedule to phase-out MTBE. For example, the California Air Resources Board (CARB) should revisit existing Phase III gasoline regulations and make adjustments to the Predictive Model to accommodate *10% volume ethanol blends*. The additional supply of ethanol will offset a significant portion of the net volume shortfall projected in the report.

We will comment on three issues associated with the report:

Stillwater assumptions
Alternative solutions
MTBE phase-out and the impact of pending pipeline projects

Stillwater Assumptions

First, Williams does not agree with Stillwater's assumption that the entire gasoline pool in California will be blended with 5.7% ethanol. Based on that assumption, Stillwater has projected a loss of 46,000 B/D butane and pentane along with a volume loss of 10,000 B/D associated with "other losses to meet distillation specs"[1]. In fact, 80%[2] of California's gasoline pool is required to be oxygenated in 2003. Refiners and oxygenate blenders will make their blending decisions on a number of factors in attainment markets. Based on our ethanol marketing experience in various markets across the country, we cannot state with any certainty that refiners would voluntarily blend ethanol in attainment markets. However, if refiners and importers do opt to offer non-oxygenated gasoline in 20% of the state, the volume loss figure projected by Stillwater in table 3.1 should be reduced. If this is not the expected result i.e. that it will not have a positive effect on the supply volume, one must question why it was necessary to file for a waiver of the Clean Air Act's oxygen requirements.

[1] Page 18, table 3.1 Stillwater Associates MTBE Phase out in California
[2] California Energy Commission presentation February 19, 2002 Sacramento – slide 4

Second, we do not agree with Stillwater's assumption that CARB cannot make changes to the regulations that would have an impact on the projected shortfall. As discussed below, we believe that modifications to the Predictive Model are a viable option to enhance supply while protecting air quality.

Alternative Solutions

CARB Predictive Model Restrictions on Ethanol Volume

Table 3.1[3] of the Stillwater report highlights a net volume shortfall of 56,000 B/D after considering the effects of the MTBE phase-out and ethanol phase-in. First, the table is somewhat misleading since this data represents a summertime scenario only. As mentioned earlier, Stillwater has based its ethanol demand figure on the assumption that the entire state will blend 5.7% volume ethanol in its gasoline. Most stakeholders agree that ethanol volume will only rise to 5.7% due to the penalties imposed for an assumed increase in Nox in the Predictive Model on refiners who may choose to blend a higher percentage of ethanol. While recent data has been publicly submitted to the CARB from the Automotive Alliance that would justify a revision of the parameters that effectively prohibit 10% volume ethanol blends, no action has been taken. We suggest that CARB should consider amendments to the model that would allow 10% ethanol blends.

Again referring to table 3.1, Stillwater has projected 46,000 B/D of butane and pentane removal (summer months only) and 55,000 B/D of "ethanol addition". The primary reason for butane and pentane removal is compliance with CARB's RVP requirement in the summer months. While an increase from 5.7% volume to 10% volume ethanol will have a positive effect on the projected net shortfall, the RVP bump associated with ethanol blending peaks at around 2% volume ethanol. Therefore, an increase to 10% volume ethanol will provide the benefit of increased supply without the downside of a corresponding increase in RVP.

MTBE Phase-Out and the Impact on Pending Pipeline Projects

Stillwater has based the revised phase-out date in part on the start-up of a new pipeline from El Paso to Phoenix in 2006. This new pipeline leg would connect to the Longhorn Pipeline in El Paso and provide Phoenix with Gulf Coast supply. As a result, gasoline produced in southern California would no longer be transported to Phoenix thereby effectively increasing California supplies. [4].

As publicly stated during the February 19th workshop regarding this report, Williams is considering an additional refined products pipeline from El Paso to Phoenix. If the project receives Williams management approval, we believe that operations could begin as early as 2004. This assumes that Williams would have expedited approvals from the state and federal government and does not factor in any delays due to competitive or local factors. The state of California must recognize that an indefinite delay of the MTBE phase-out will have a negative impact on the economics of the proposed pipeline and may delay or derail the project entirely.

[3] Page 18, Stillwater Associates MTBE Phase out in California
[4] Page 21 Stillwater Associates MTBE Phase out in California

Summary

A delay of the MTBE phase-out and the continuation of Phase II Cleaner Burning Gasoline regulations will maintain artificial barriers for domestic ethanol market growth in California. Indeed, California, like other states needs to diversify its energy portfolio. Over the past 5 years, foreign crude oil imports into California have effectively tripled, from about 177 TBD in 1996 to nearly 500 TBD in 2000[5]. Renewable fuels like ethanol deserve a role in the states' 2003 energy policy today.

We appreciate the opportunity to provide our comments and to suggest alternative solutions.

[5] Stillwater Associates – MTBE Phase out in California. February 18, 2002

MTBE PHASE-OUT PUBLIC HEARING
FEBRUARY 19, 2002

Questions put forward to CEC Staff and Consultants

Mr. James White, of White Environmental Associates

- **Wouldn't it make sense to revisit the basis of the Governor's decision in the 1998 University of California MTBE study?**

- **Should California be risking these higher prices?**

- **Why are we still continuing down this path that's leading to greater gasoline costs and continuing uncertainty when there are new regulations establishing inspections of each underground storage tank once a year?**

Michael Greene, of CDS Consulting

- **Why don't you just phase out gasoline and replace it with E85?**

- **Is there anything California can do unilaterally to increase fuel efficiency standards in automobiles?**

- **What is the estimated cost of the mitigation of the environmental degradation that will occur from the continued use of MTBE over this rollback period?**

- **What is the cost of the stranded investments of ethanol producers not only in other parts of the country, but in the State of California?**

- **What is the estimated public cost of the removal of the barriers to fuel imports.**

- **Your assumption was that it was required, or would be required to be used in every place in the State of California. How will your projections change as a result of tweaking the formula?**

Steven Smith of Phillips Petroleum

- **I think the consultant certainly expressed that -- a hope and a desire that the Longhorn Pipeline would be obviously in place and the Kinder Morgan System would be looped. I think that's a pretty big assumption at this point.**

- **I would encourage the consultant to also look at federal legislation in place.**

- **We question whether the supply/demand picture would truly be any better two to three years from now.**

- **Some suggestions for the consultants would be to take a little deeper look at the action we've taken already.**

Brooke Coleman, of Renewable Energy Action Project

- **Why bio-fuels were not considered a part of the solution to this problem?**

- **I have a general question about whether there is a specific reason for not including some very serious costs to consumers related to not just pump prices, but public health and clean-up, as well.**

Jay McKeeman, of California Independent Oil Marketers Association

- **I feel have not been addressed adequately in the report, and one is the issue of unbranded supply in the state.**

- **I am concerned that there is a fair amount of assumption that everybody's going to have oxygenated fuel.**

- **I would suggest that you take a look at our class of trade and understand the economics of what a ban might do to us.**

Elisa Lynch, Bluewater Network

- **We wonder why the consultant hasn't considered a decrease in demand as a solution?**

- **Why haven't you considered the cost of MTBE use, continued use for three more years?**

Christine Stackpole, Associate Director of the Downstream Oil Cambridge Energy Research Associates - email letter

- **Comment on the actions taken to date within the California and downstream industry to prepare for the phase-out?**

- **What is the status of this, and what is the status of any terminal conversions to begin accepting ethanol?**

- **Where is ethanol being used in California?**

- **Why is it currently economic to blend some ethanol if there is excess MTBE availability?**

- **Is the challenge presented of storage capacity one primarily of added cost that the industry will have to incur, or one of time needed to add the necessary storage?**

- **How significant is the cost of adding new tankage?**

Mr. Peters

- **I think it is appropriate for the Energy Commission to give consideration to California taking a stand and providing a flexibility to California's refiners**?

- **We would suggest that it is appropriate for every pump in the State of California to have a sign on it so that the public knows what they're buying.**

Bruce Heine, of Williams Energy Services

- **If it's possible to allow a greater percentage of ethanol, that is quite common for the rest of the United States, to allow that here in California, then that seems to me to be a reasonable request to re-look at that through the Air Resources Board's current regulations.**

- **I would encourage Staff and those that wrote the report to take a look, and if ten percent blends were allowable here in California, what that would do to the implications of your overall end results and your end recommendations.**

Nick Economides, of Hart/IRI Fuels Information Services

- **We think that it may be advantageous for California to see what the national picture emerges, and to determine how California's best interests would be served in that scenario of supply and demand, before moving forward with that action.**

- **If you could comment on the availability of ships and the logistics.**

Mr. John King of the California Farm Bureau Federation

- **So I would like to suggest, and perhaps ask the study group if they've exhausted all their study potential as to what needs to be done to fill this logistic gap, whether they feel that more work can be done on the logistics side of getting the ethanol here to California.**

Mike Tinney, Tinney Associates

- **Why not recommend a change in the specs?**

Mr. Matt Williams, a resident

- **Is there any reason why there isn't a scenario with ten-percent ethanol as was used in the rest of the county?**

- **Recommend a fourth scenario examining the impact of ten- percent ethanol blend so that we can see what the full economic impact is.**

Steve Shaffer, Department of Agriculture

- **The predictive model needs to be addressed, and needs to be a part of the analysis.**

Neil Koehler, with Kinergy Resources for the Renewable Fuels Association

- **Ten percent ethanol blends, it is possible in the predictive model, as has been mentioned by the consultants, it is difficult under the current model to blend in ten percent ethanol. We need to take a look at the newest data and then recalibrate.**

- **The Energy Commission reports document that from 200 million to 3.7 billion gallons, of ethanol potential exists from Californian. Encourage the consultants here to incorporate that into further fine-tuning of this analysis.**

- **In the meantime, is there any reason why, if there is to be an extension, we shouldn't consider that to be only for summertime use, and that we have an MTBE ban in the winter months?**

Mr. Chad Tuttle Kern Oil and Refining Company

- **Kern Oil supports the key findings of the report that gasoline supply shortfalls will occur if the MTBE phase-out were to procedd as scheduled.**
- **Kern supports at least a ten-month extension of the MTBE phase-out deadline.**